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W. A. C. A.

An Essay  
on the properties of the

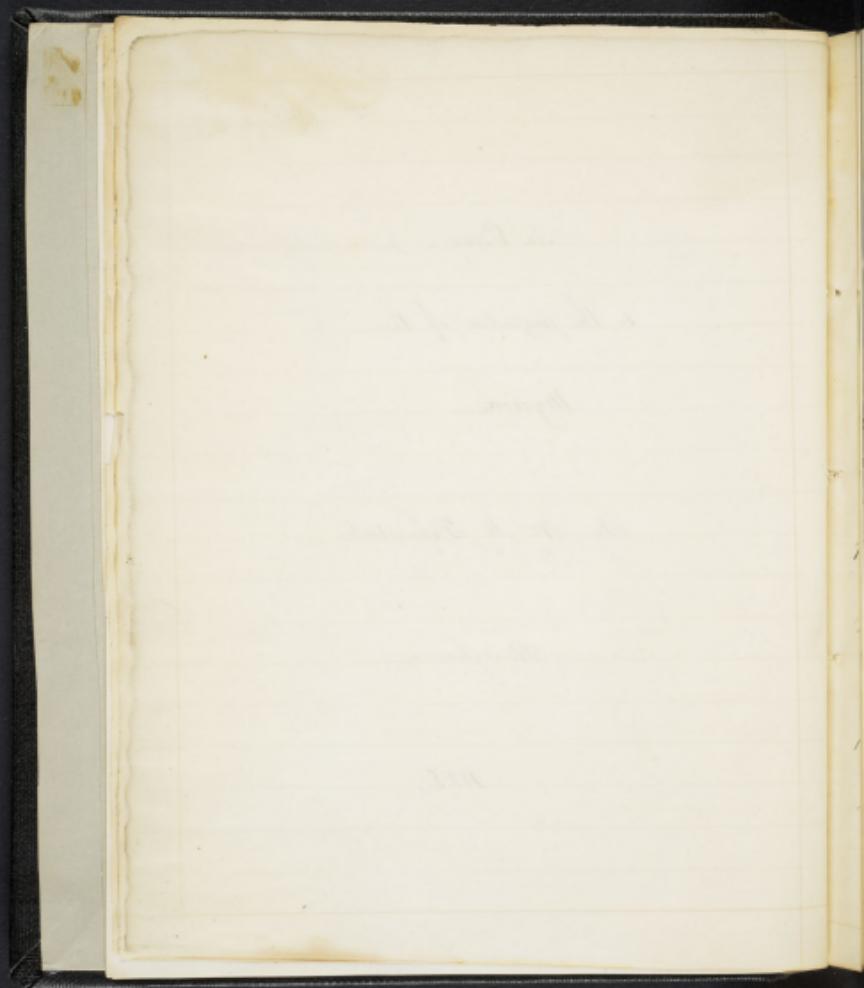
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By, W. M. Fabenswick

Pennsylvania

1828.



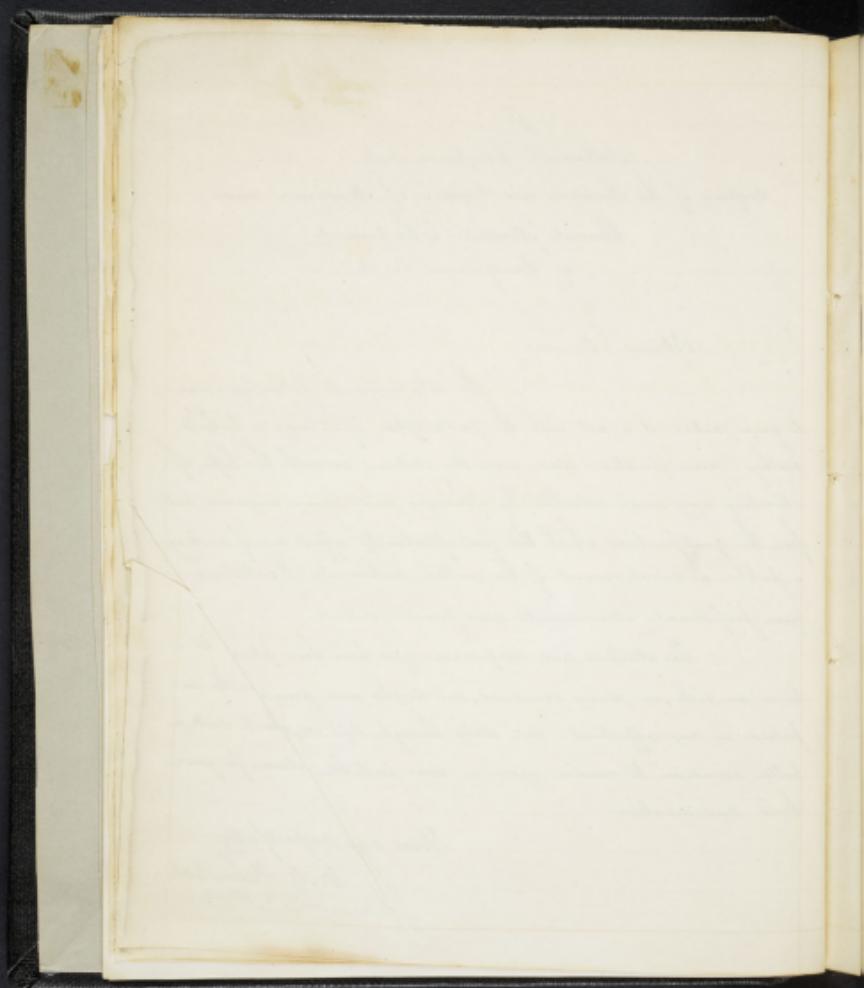
To  
Silas L. Chapman M.D.  
Professor of the Institutes and Practice of Medicine and  
Clinical Medicine, in the University  
of Pennsylvania &c &c.

Esteemed Friend,

In introducing the following essay to your notice it is, not, with the presumption of it being a tribute paid by your elevated and exalted station; nor with the hope of attracting any more attention by appearing under your auspices, but from the gratification which this first opportunity affords me of making a public acknowledgment of the called sentiments I entertain of your professional attainments and private virtues.

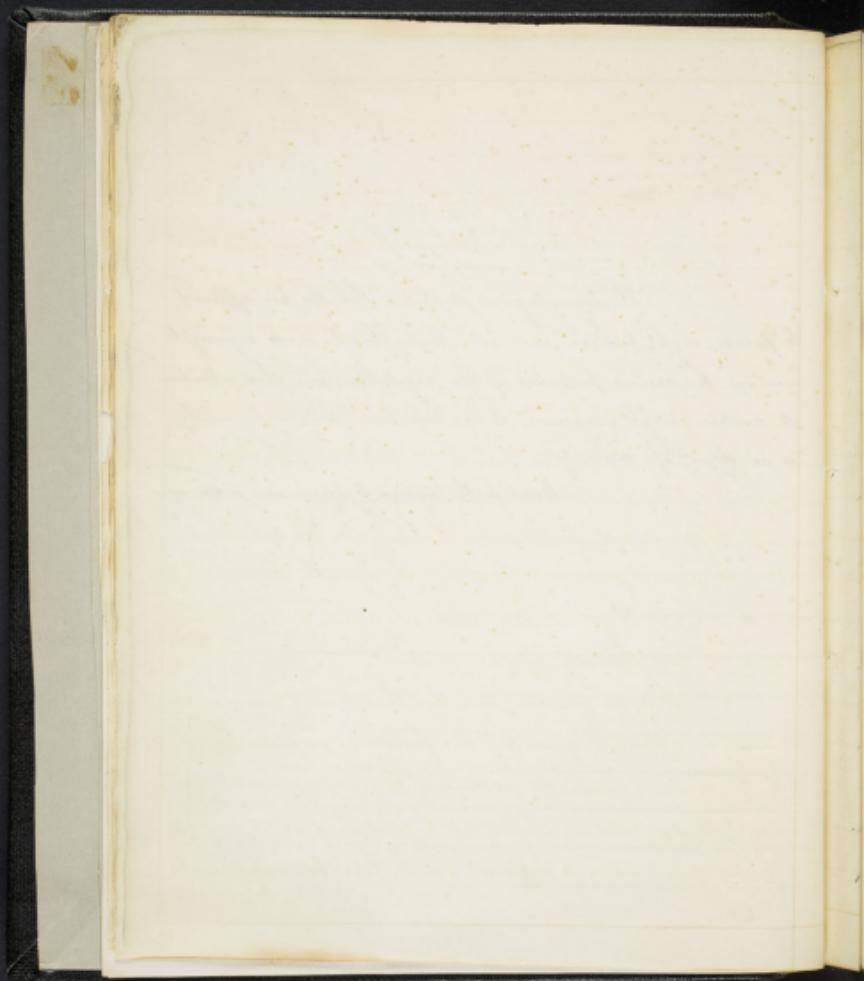
The attention and confidence you have been pleased to honor me with, on many occasions, are deeply and permanently impressed on my affections. One day through life ~~will~~ be such a better occasion to render you a more suitable return for your kind consideration.

Yours very respectfully  
W. H. Farnsworth  
(H. H. F.)



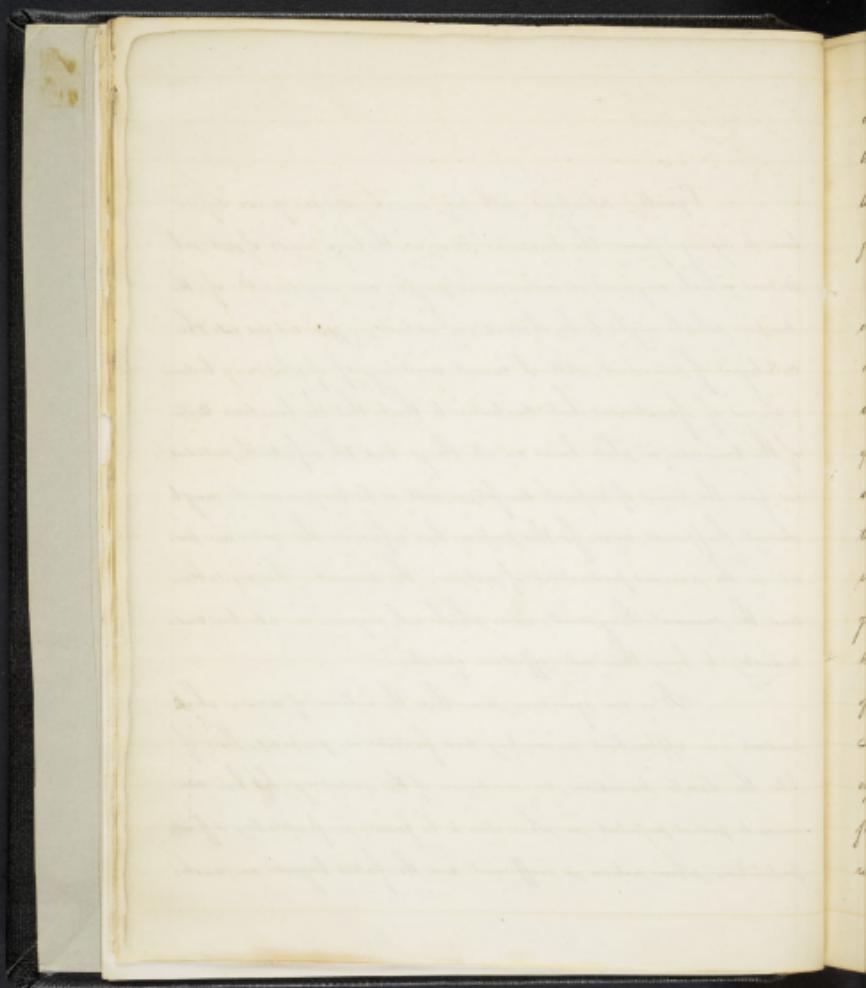
The remarkable properties that this tree appears  
to possess, ought to have induced philosophers to make enquiry to  
ascertain the various properties of the vegetable, and what attention  
its culture might require; it has long been considered, merely  
as an object of curiosity.

Notes on the Maguey. Cuicatl. Anna de Chiriqui.



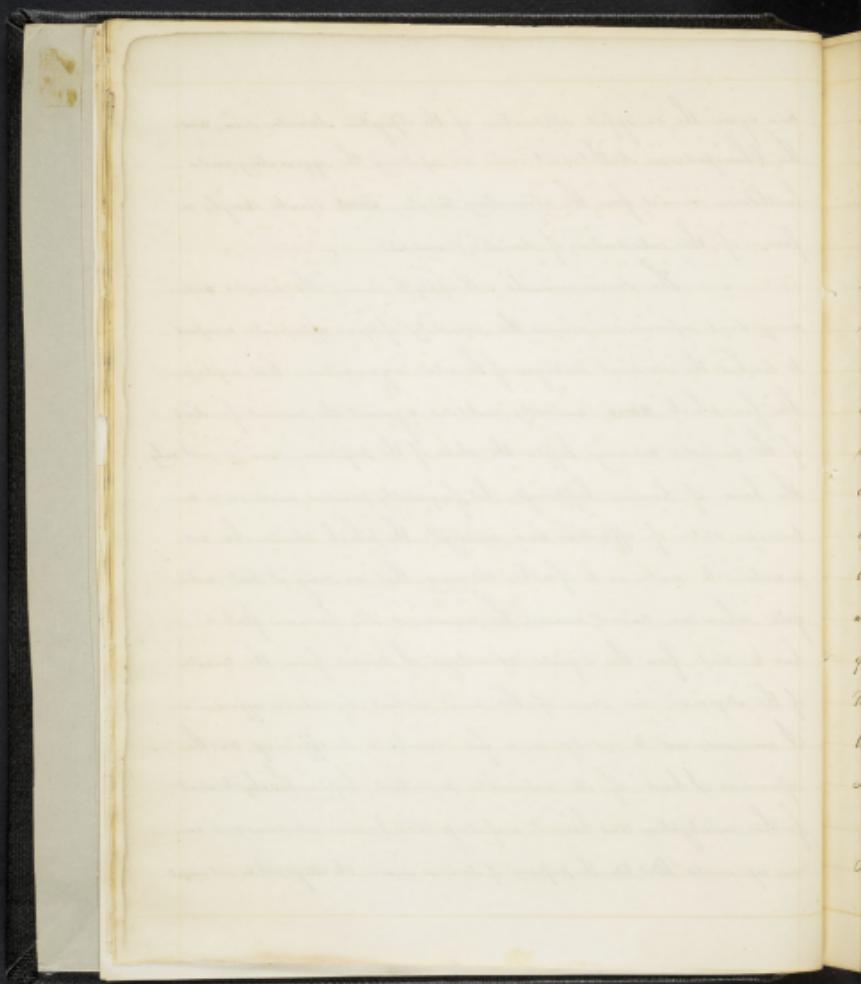
Equally solicitous with my much respected friend Tugwell  
done to you from the situation. We view the large mass of out-  
standing which augment its voluminous pages, and very sensible of the  
caution which ought to be observed in admitting new articles into the  
catalogue of considered, still I cannot divest myself of what may be deemed  
a species of fanaticism but continue to think that the benevolent Author  
of the Universe, in whose hands are all things, and who infests the world,  
has given the world of temporal comfort, as well as he has provided the way to  
eternal happiness, and for this purpose has infused the restorative pow-  
ers in the various productions of nature - the animal - the vegetable -  
and the mineral Kingdoms, and which only require an attention and  
industry to bring them into effective operation.

It is our ignorance more than the violence of desire which  
renders our applications unavailing and frustrates our purposes. Thus if  
like the Scale Constitutions, or conditions of the world, you had been ade-  
quate to possess yourself no where else to be found in facilitating difficult  
operations where nature is insufficient and the fates beyond our reach.



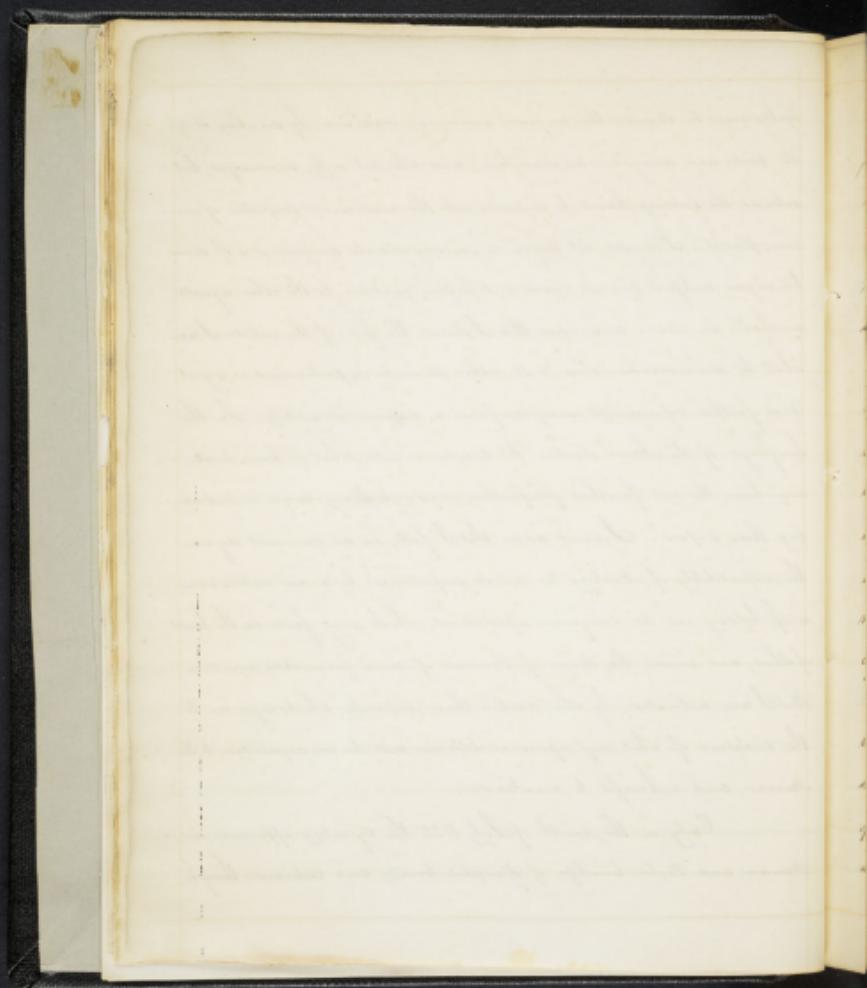
one again the successful application of the *Spigelia acanthodes*, and the *Champodium Anthelminticum* in expelling the aggravating and troublesome worms from the alimentary canal, which speaks strongly in favor of the introduction of domestic remedies.

The same remarks will apply to many other diseases and every day's experience convinces the necessity of more appropriate weapons to combat the insidious destroyer of the vital organization that implacable foe which ~~Health~~ constantly militates against the normal functions of the animal economy, baffles the skill of the physician, and is not only the bane of human happiness, but frequently renders said time a baneful state of affliction and misery. The world should be encouraged to write us to further discovery, that we may at least publicate where we cannot remove the numerous ills human flesh is heir to, and from the signal advantages I derived from the concoct of the saponaria in some of the most violent dysenteric affections I am induced to indulge in a few remarks on its efficacy, and the experience I had of its valuable properties, hoping thereby to elicit further investigation and have its properties tested by more extensive and repeated experiments. But like the professor of medicine said when he stays with the most infat.



igable seat to cleanse the ayeian army of medicine, by divesting it of its crude and decoysed ammunition; and who not only encourages, but subdues the fostering hand to engrain into the medicinal properties of our own plants. I would, not prefer a remedy merely because it is of plants, but which itself it possess equal or superior qualities to the other agents we have in use: one upon this I stand the fate of the world. I am about to recommend, but will either postpone or quit it as further experiments may confirm or disprove its utility. In the language of Dr Isaac Hopper "to communicate what I have tried and been the out for others to further engraving all my ayeian in publishing these papers". I must add that I feel in an eminent degree the responsibility of attaching too much importance to a new substance, or of holding out too sanguine expectations, which may fail in the hands of others, and secure the doom of thousands of now favorable subjects. But I am actuated by other motives than publicity, which urge me to the disclosure of what may experience tell, we will be an acquisition to the Human, and a benefit to mankind.

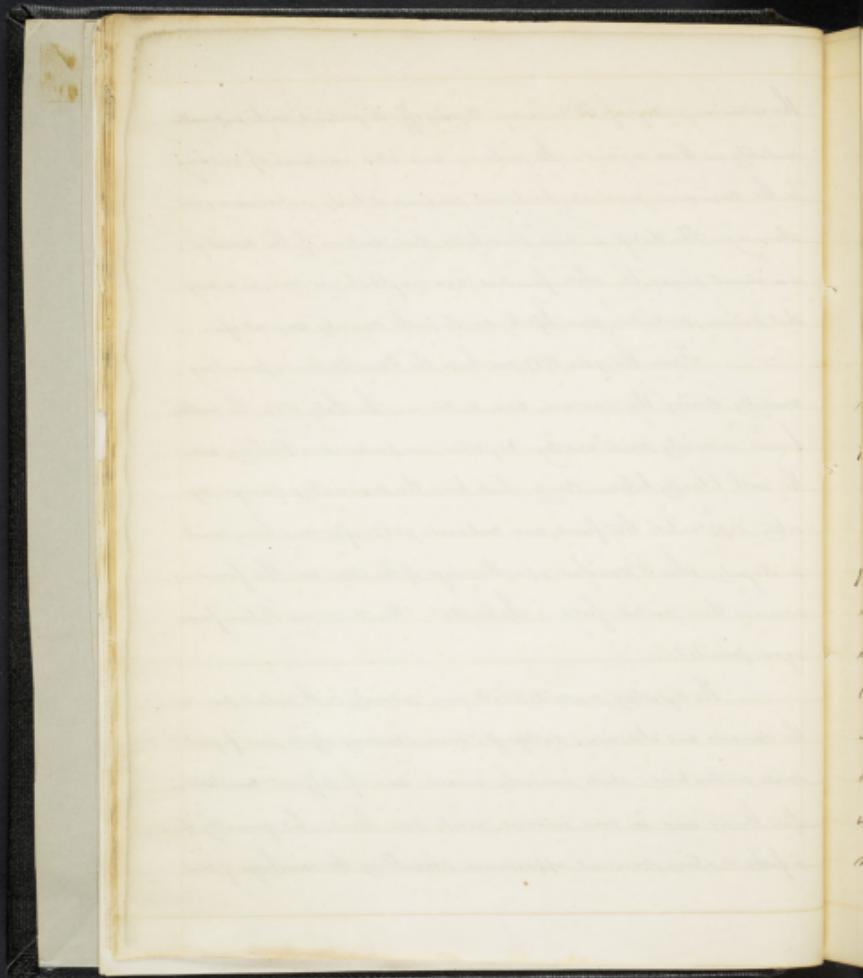
Early in the month of July 1822 the Agency appears in Paxton and Paxton townships of Dauphin County and continued through



the extensive valley of Pittmanings, carrying off its pastures with unparalled  
violence and stem resistance of yielding  
to the common moderate treatment rendered it truly embarrassing and  
alarming. The loss in some households, and sections of the country,  
was almost incalculable. Whole families and neighborhoods now, in a very  
short period, contractor and left to brush with scarcely any relief.

From the year 1819, we had the Fever Epidemic prevailing  
annually during the summer and autumn. In July 1822 the weather  
became excessively warm and dry - vegetation was parched and perishing, and  
the earth literally baked, during which time the smouldering savages dep-  
erately supplanted the fowls, and continued until after some heavy rains  
in August, when it vanished upon the wings of the storm and the former  
scumous thin mottled fields - Potomac, Rappahannock and Delaw forces  
again provided.

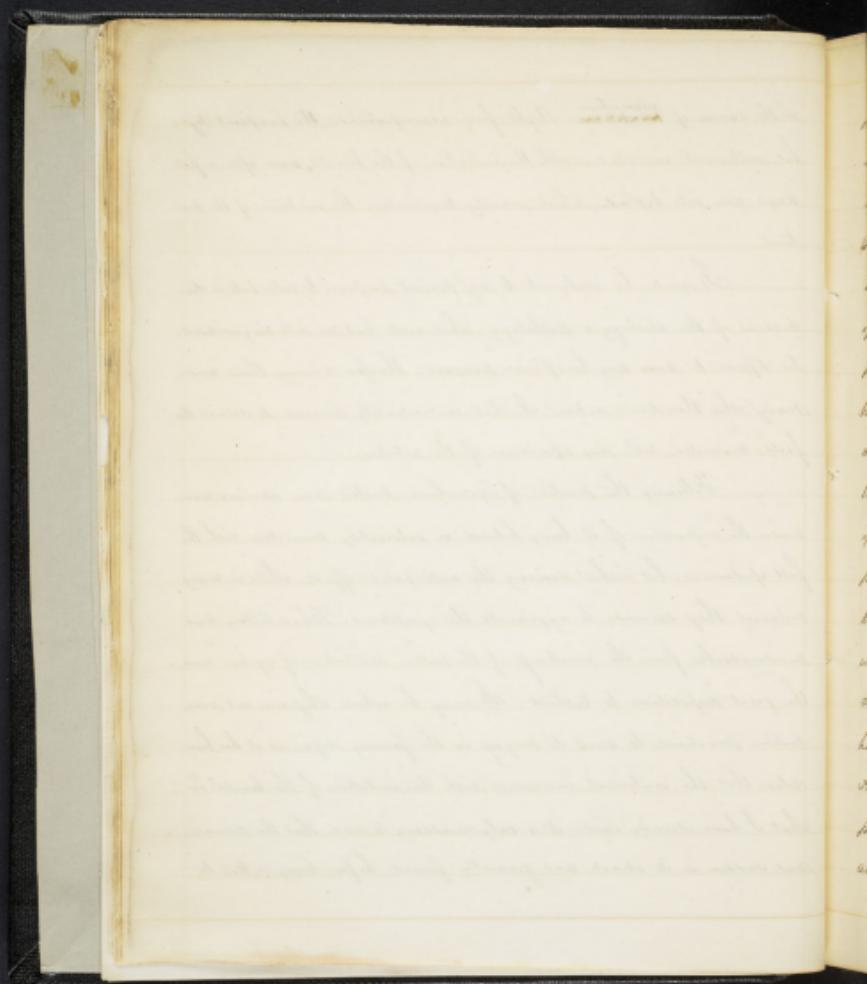
The dysentery made its attack very suddenly with violent pain in  
the stomach and abdomen; rattling off, severe straining efforts, and frequent  
small excretions; stools variously mixed and of different consistencies,  
often bloody and in some instances, nearly pure blood, but generally of  
a fatty or oily mucous appearance resembling the mucus of meat



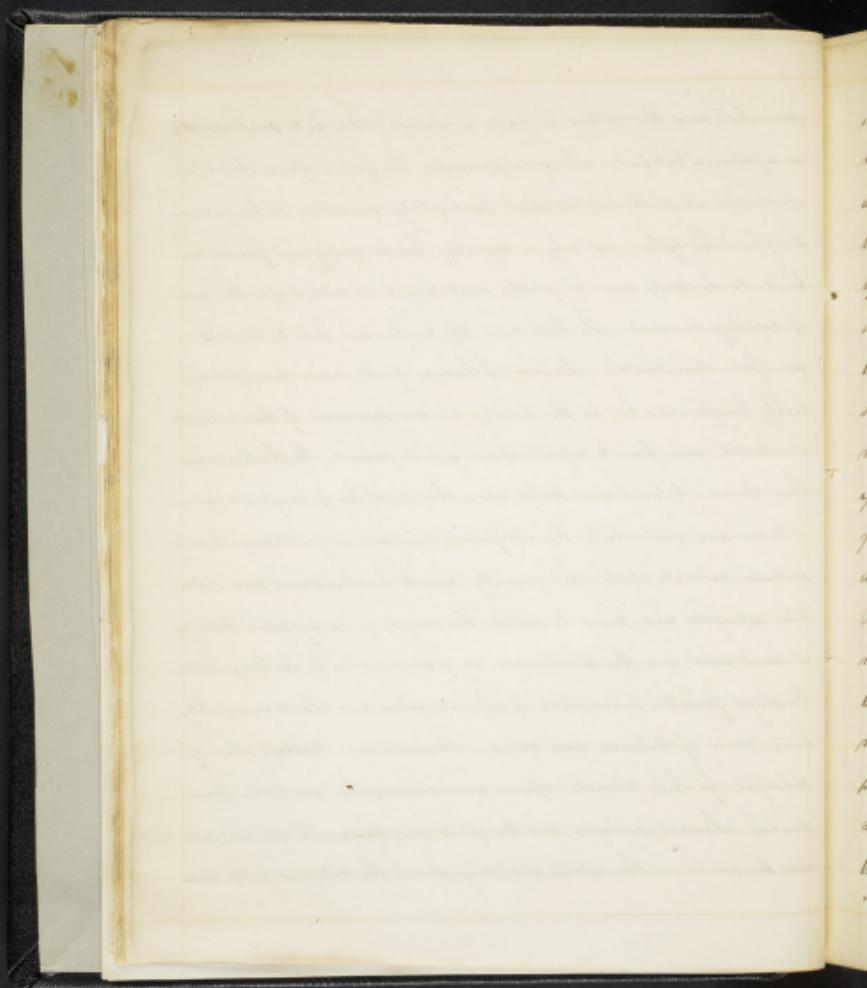
or the cause of ulceration. Right-fore accompanies the jupitrian stage, but contumely increased with the irritation of the bowels, and after a few days, runs into typhus, which usually terminates the misery of the patient.

I would be embarras to my present purpose to enter into a discussion of the etiology or pathology, which would lead me into disquisitions too diffuse to serve any beneficial purpose. Therefore, leaving them and many other theoretical questions, I shall immediately proceed to detail the facts connected with my experience of the article.

Following the practice of Sydenham I used some aperients under the impression of it being bilious, or internally connected with the fall of temperature, but without deriving the anticipated effect, while in many instances they seemed to aggravate the symptoms. Blood letting was inadmissible, from the want of the pulse, prostration of system and the great disposition to typhus. It may be asked why was not some section practised to vent its torpor in the former stage, as it has been stated that the contumely increased with the irritation of the bowels? or what I have already said, it is only necessary to add that the disease was sudden in its attack and generally formed before being called to

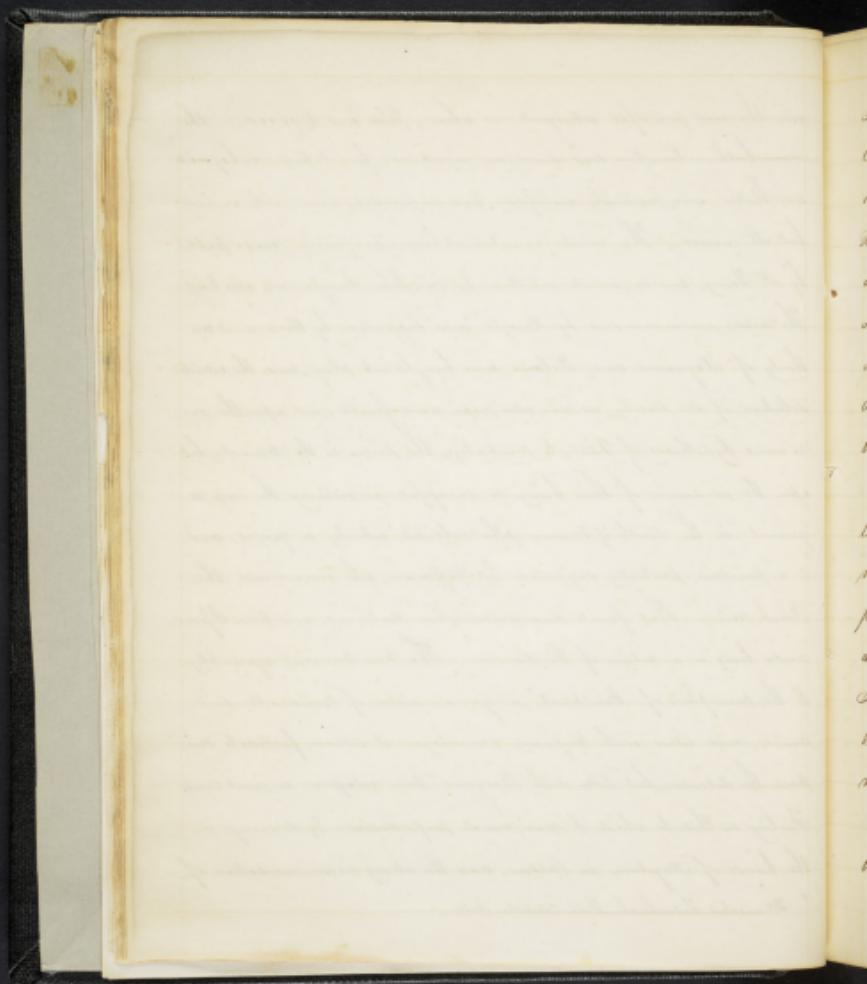


provinces, and the system in such a closed state as to preclude its  
as experience teaches when once passed. The fact is often observed in  
epidemics, which the late Dr. Rush particularly remarked in his notes on  
Dysentery. "The system, not only in dysentery, but in malignant fevers, is com-  
bined so suddenly and completely mortified, as not to react after the cure  
of the disease, so that life can be saved, only by the most  
powerful stimulants". Lesions I have no doubt, would have proved  
highly beneficial; but in the country we are deprived of these valuable  
auxiliaries, and have to depend upon general means. Calomel is more  
than above - Calomel and Saliva air - the sulphate of Magnesia and  
of Soda, are particularly the eloquient mixtures, as gentle purgatives to  
procure natural stools, but generally have to be abandoned and subtil-  
tible astringents and tonics to sustain the strength of the system - Calomel  
in small doses, and the antimonials as recommended by Sir George Baker.  
Hawthorn's favorite prescription of Specimens which are Laudanum - Dr.  
Horn's union of Calomel and opium - Aconite and Raktor's Pill of  
Sedatives; for which Calomel, opium and iron-cyanide were used - Dr. Dr.  
Fowles' Iodine's powder, and the opium mixture, with Aconite, and  
and Laudanum - the alkalies and magnesia - the calcareous jupit and



even the most powerful astringents as alum, hine and bay-wood. The warm bath, lanoline and auryan injections, fomentations, rubefacient and distemper, were variously modified, and successively used, with varied but ill success. The much vaunted *Album Speciosum*, made publick by Dr. Young, and so much extolled by Dr. John Pringle, was also tried. The acids recommended by Pringle, and supported by the ancient authority of Segronius and Holanus, were brought into play, and the active solution of Dr. Morby, as were also ripe acid fruits; but upon the erroneous hypothesis of Dr. St. L'espérance, to neutralize the poison in the stomach, but upon the evidence of this being so successful in restoring the Army regiment in the South of France, who subsisted entirely on grapes; and is a practice, partially supported by Hoffman, who recommends the French wine. But fruits are said when contained any time beyond, more being in a relish of the disease. The Mar. Dominic, agreeably to the description of Conduoch, a german writer of considerable eminence, was used with temporary advantage; it seldom failed to remove the disease, but like with Bergius soon relapsed in most cases. Farley in this to which I was much propitiated by its success in the hands of Hogstrom in Sweden, and the strong recommendation of

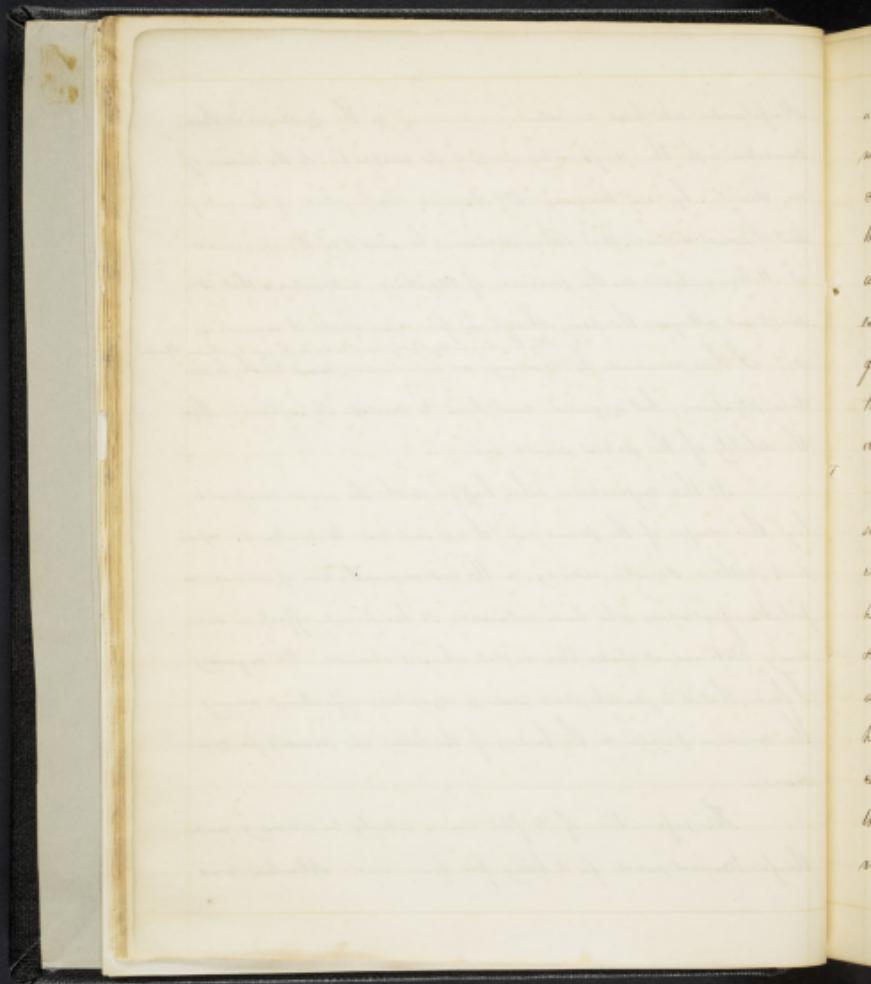
"Stenisket Fatsvuln. Fin brattile Dolce."



Hufeland who had an extensive experience in the epidemic at Aina,  
converted with the confirmatory proof of its adaptability to the disease of  
our climate by my friend Dr. Samuel Hahnemann of Lancaster,  
But I since discerned that Schmidtman, who used it in the epidemic  
at Mette, a town in the province of Osnaburg, acknowledged that it  
sometimes allayed the pain though in few individuals it increased.  
I then resorted to Mercury, as introduced by Bylev, <sup>by Bylev, an aborigine name extending from the Bylev River.</sup> and Black, to pur-  
ge my patients, but required more time to develop its influence than  
the debility of the patient would endure.

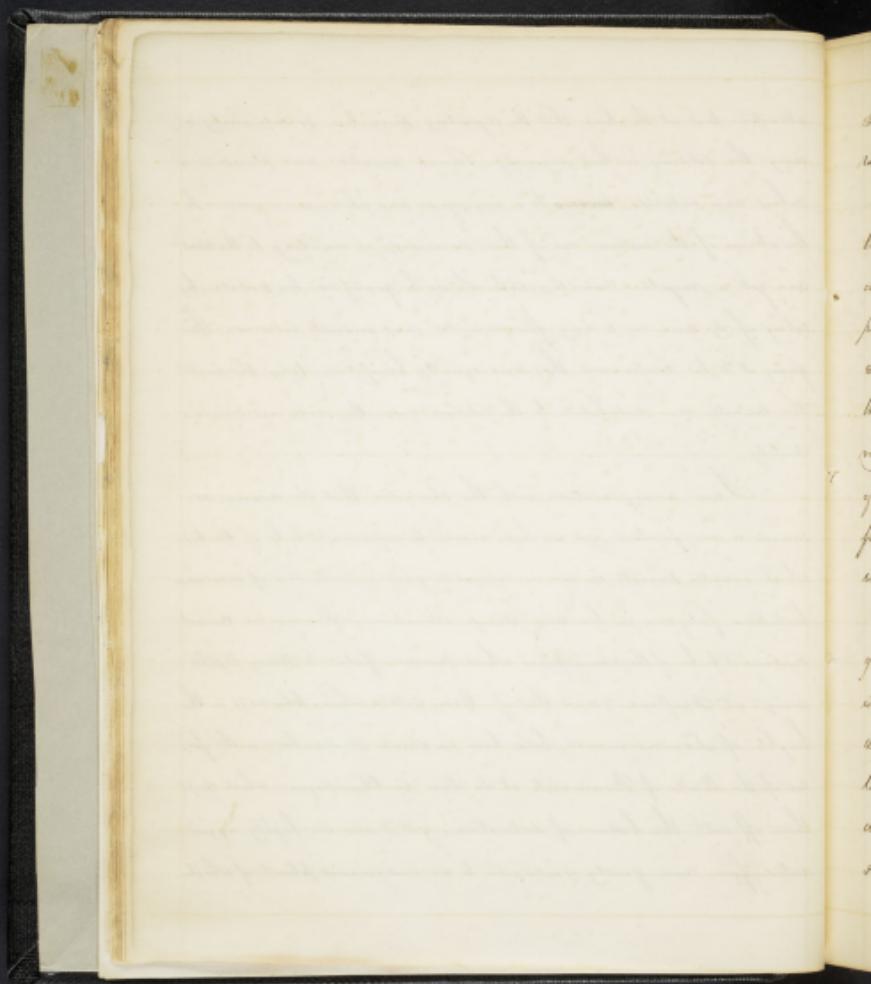
At this conjuncture when baffled with the usual means to  
lay the灾区 of the prima via, I was induced to make an ex-  
periment with a domestic remedy, on the recommendation of several re-  
putable gentleman who had witnessed its beneficial effects in our  
army soldiers at Lake Erie in 1813, where it abounds. On inquiry  
I find that it is much more used in dysenteric affections among  
the common people on the borders of the lake who frequent for com-  
merce.

The information of its first use is entirely legendary, and  
therefore cannot point for it being free from error. Attention was



attended to at the time that the depoitory furnished so extensively among the soldiers in that vicinity. Several invalids were placed in a chair and satisfied ~~themselves~~ to a very agreeable and abstemious regimen. In the absence of the master, one of them succeeded, in wanting to the chest and got a mystery candle, with which he gratified his appetite. A salver of £. and in a very few minutes was evidently relieved; then giving it to his companion they were equally beneficent. When the punch the contents were distributed to the soldiers, over they recovered immediately.

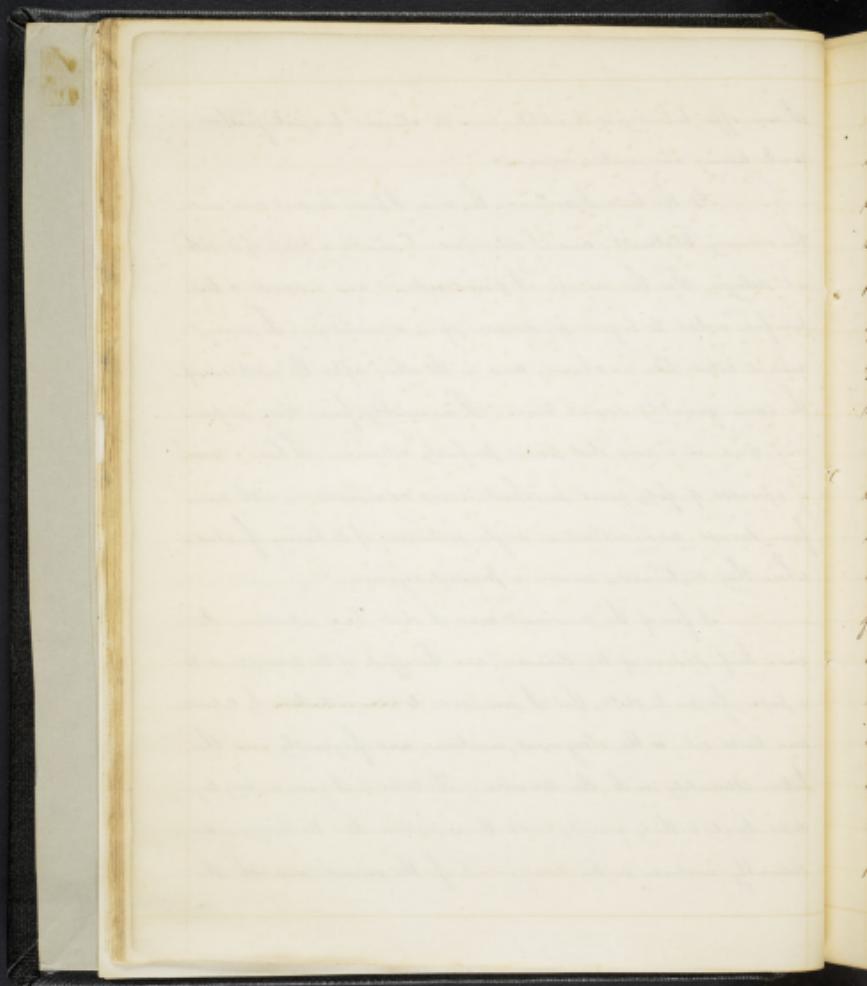
I am unacquainted with the character that the disease assumed on our frontier, yet we have reason to suppose it to be of the type which usually prevails in armies, exposed to great vicissitudes of exposure heat and fatigue in low and damp situations. However we cannot suppose it to be of the same type which proved so fatal to Henry Fifth's army at Agincourt, and that of Cromwell's when Charles II. in the heights of Laramonme, held him in check at Dunbar; or the forces of the Duke of Brunswick at Le Loup, in Champsagne, which swept them off with the bottom of destruction, yet it was an highly aggravated form and greatly yielded to an indigenous plant of which



I now offer testimony of its utility, and its claims to a distinguished rank among our native remedies.

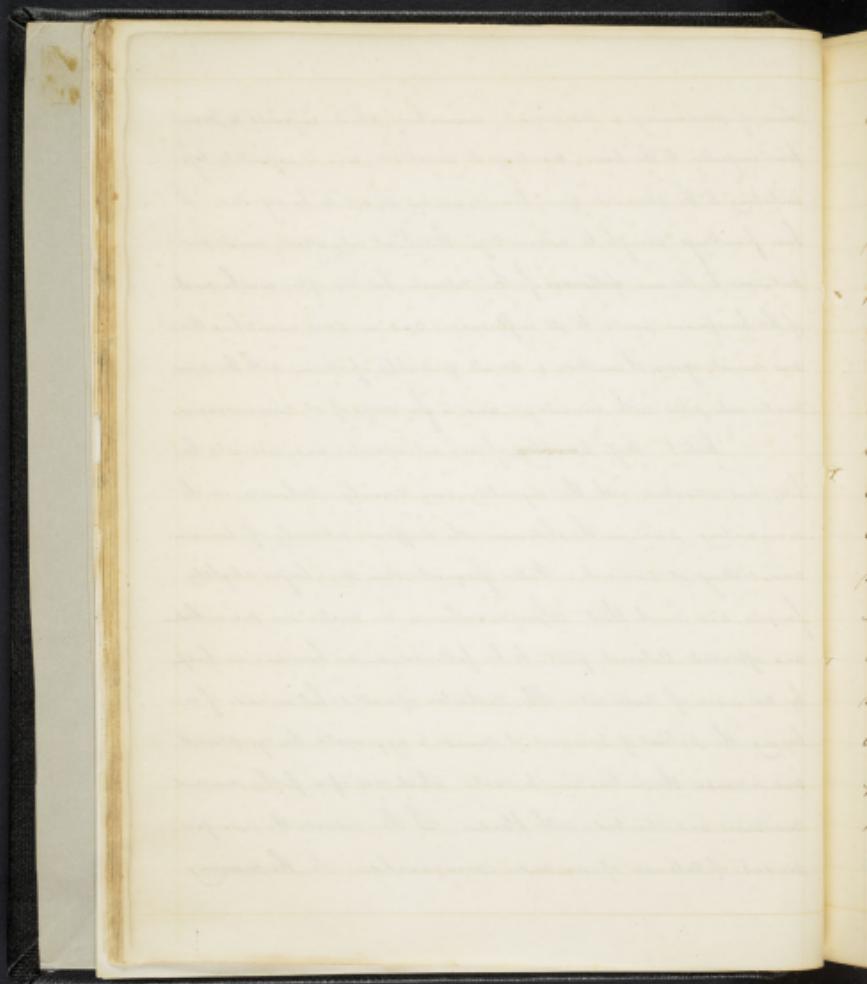
At the time I received the root I had several cases under the ordinary treatment, and I determined to make a trial of it without delay. For this purpose I powdered it, and added a few peacock feathers to begin in simple syrup or蜜糖. In many cases it acted like a charm, and in the others after the repetition of the same quantity several times, I invariably found them improving, and in a very short period perfectly relieved. I have a record of upwards of forty cases in which it was administered with uniform success, and without a single instance of its having failed where they continued under a prudent regimen.

A few of the prominent cases I shall here introduce to give a brief picture of the disease, and the effects of the prescriptions. It is proper for me to state, that I prescribed & administered by Calomel and Castor oil, or the oleaginous, mixtures, and frequently used the latter alternately with the former. The calomel I gave in very large doses, usually to thirty grains, under the impression that the liver was considerably involved in the arrangement of the viscera, and with the



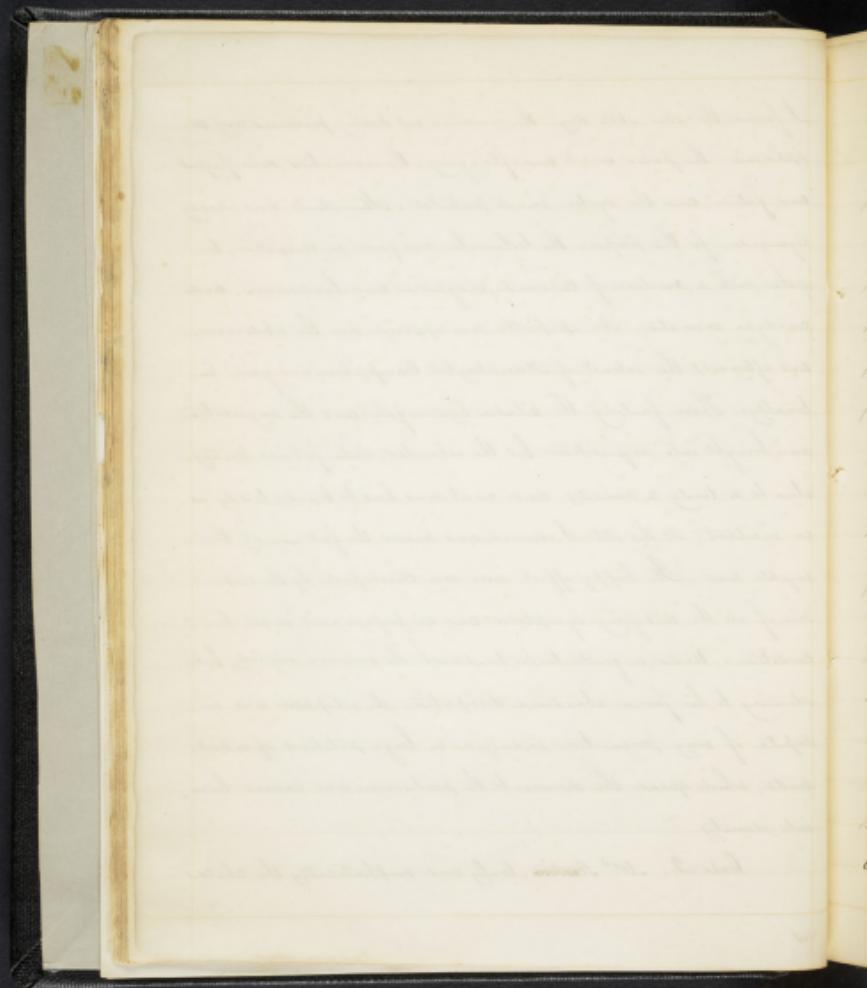
view of producing a medicinal evacuation, which imparts a more  
lively impulse to the bowels, exciting its secretion, and is infinitely less  
irritating to the stomach and bowels, and not so apt to be rejected. I  
have frankness enough to acknowledge that I not only attack most in-  
stantaneously the use ~~of~~ <sup>of</sup> gathering of this Calomel, but do often ascribe much  
of the beneficial results to its influence: and in some cases where there  
was much agony, I unit'd a small quantity of opium with the dose  
made into pills with juniperus and a few drops of oil cinnamomeum.

Case 1. Miss ~~W~~ <sup>W</sup> of very intemperate and dissolute ha-  
bits, was attacked with the dysentery very severely. Besides a much  
increasing pain in the abdomen she suffered intensely of tenes-  
mus & sickness at stomach. Pulse frequent - thin dry - tongue slightly  
furred, and much moist. Ipecacuanha in an emetic was prescribed  
and afterwards Calomel ~~got~~ to be followed, in an hour and a half,  
by an ounce of castor oil. The cathartes operated but instead of re-  
lieving the patient of tenesmus it seemed to aggravate the symptoms  
and increase the inclination to stool, which was of a fetid mucous  
consistency and streaked with blood. I then advised the sudorific  
powders of Calomel opium and ipecacuanha. In the morning

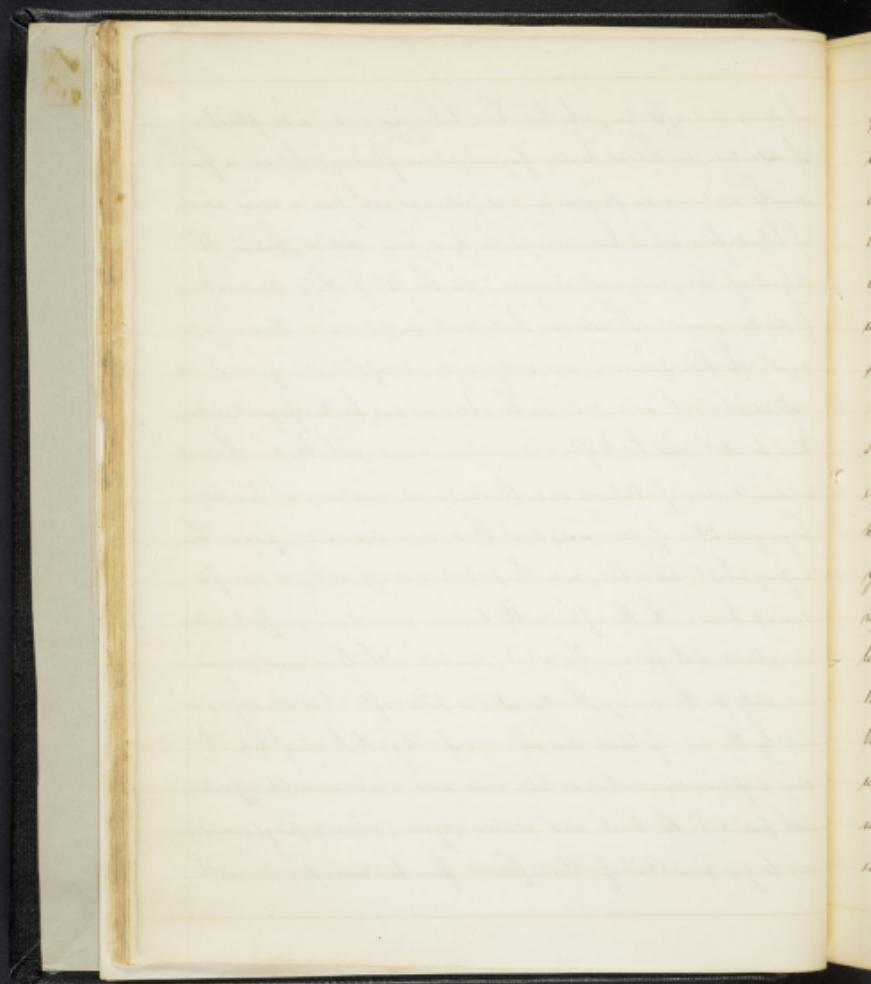


I found the skin still dry - the medicine not having produced any eff. aphæsia - the pulse weak and flagging, the countenance more pensive and fatigued, and the system much prostrated. Stimulants were already required; for this purpose the Colombo was given in decoction, together with a mixture of Calomel, magnesia and laudanum, and anodyne emetics. An emetic was applied on the abdomen, and afterwards the extract of *Homalanthus Campochianus* given internally. These failing the nitrate of hydronium and the anguineum were brought into requisition; but the exhausted state forbade trusting also to so tardy a remedy and resort was had to brandy, toddy as an instant. At this state I recurred, and made the first use of the myrtle tea. Its happy effects were soon developed, by the suspension of all the distressing symptoms and an improvement in all her conditions. Under a gentle tonic treatment she recovered rapidly, but returning to her former abandoned dissipation she relapsed and in despite of every precaution indulged in large portions of ardent spirits, which spread the disease to the peritonium and carried her into eternity.

Case 2. 10<sup>th</sup> October, truly and emphatically the child

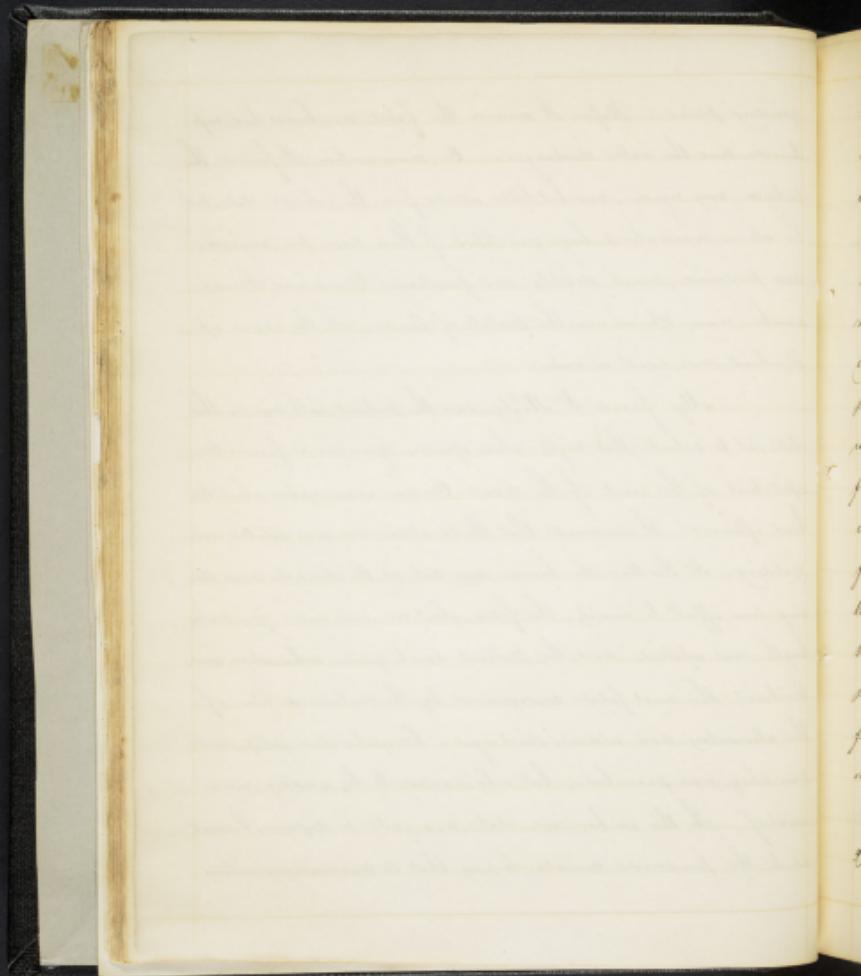


of sorrow and affliction, who had been labouring under a complication of obstinate, umbilical humor, frequent uterine hemorrhages, but now a few months advanced in pregnancy, and just recovered from a severe attack of bilious fever, which had reduced her to a mere skeleton, became the subject of this malignant disease. On the 31<sup>st</sup> of July I was called to see her again. The disease had made its appearance the evening previous: she had passed a very restless night. Complained of much distress of Stomach and pain in the abdomen and back; frequent intermissions to stool and but hifling evacuations mixed with blood. I directed a small dose of Calomel and the beginning, sweating, which espell'd large quantities of mucus, dark blood and undigested feces. The griping abated somewhat, and the patient was apparently at ease for several hours. In the afternoon the tenesmo and straining effects returned, attended with force. The alkali painture with Laudanum was given and early in the morning the Camphor in pills: after which she improved and by the eve of to-morrow was able in a few days to be out of bed, but very ineffectually, walked in cold water and was immediately affected with pain in the back and uterine region; some gripings ensued; and large quantities of blood flowed from her, accompanied with



grinding pains. Before I arrived the fatal purulence had sup-  
purred, and the waters discharged. On examination I found the  
os uteri, very rigid, and but little altered from the natural state, with  
the above evanescing large quantities of blood from the vagina,  
and produced much debility and faintings. Opium and Spre-  
nacular, ease Opium and the Ointment of Lead, with the usual op-  
plications more used in vain.

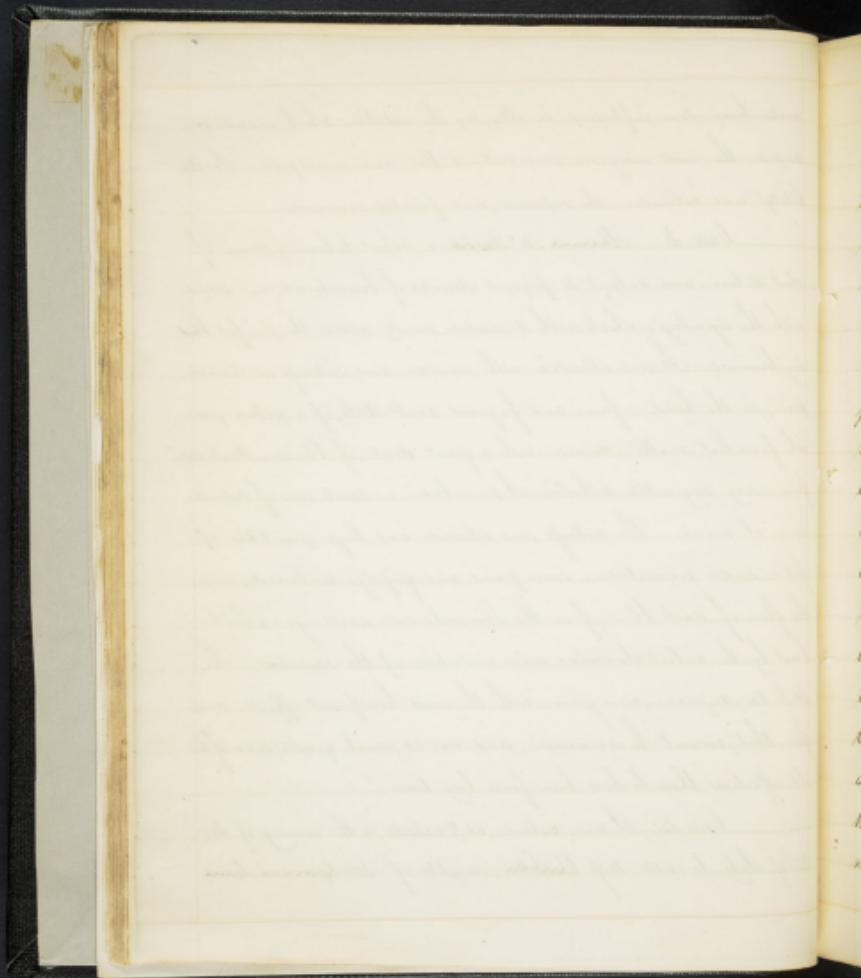
My friend Dr. Healy saw the patient with me in this  
state, at 6 o'clock that night; whose opinion gave me no favorable  
expectation of the event of the case. On an examination about two  
hours afterwards I discovered that the os uteri, was more dilated and  
yielding. At this time she became very sick at the stomach and de-  
riving some effort to vomit, the fetus, about one inch and a quarter in  
length, was expelled and the patient sank quite exhausted, and  
threatened the most fatal consequences by the continued flow of  
the alimentary and uterine discharges. Camphorated jalap and  
wine which were prescribed, but only seemed to be adding more  
misery. In this embarrased state, and quite in despair, I went  
to the provided Concreta, hoping that its tranquilizing virtues



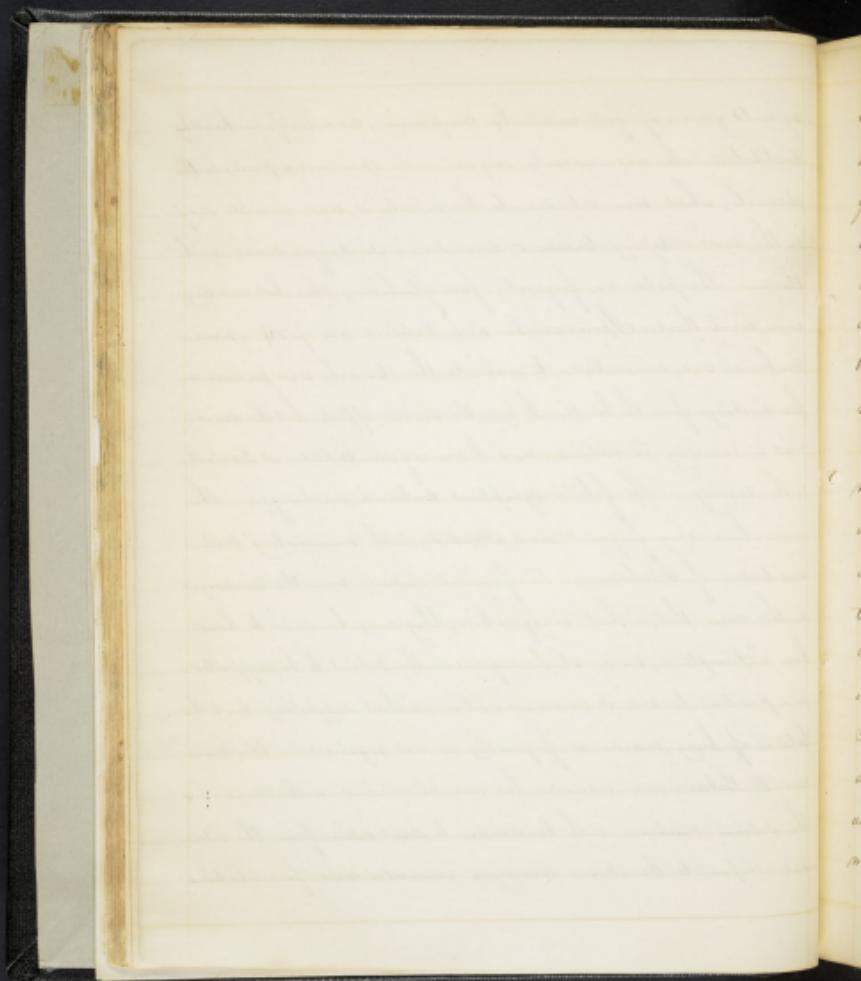
would have done influence in allaying the irritations which induce, or  
excite the most sanguine predictions that are indulged. Irrita-  
bility was calmed - she repose, and finally recovered.

Case 3. Thomas de Lavea, a robust laboring man of  
short stature, and subject to frequent attacks of hemorrhoids, was seized  
with the dysentery, which with its usual severity added the painful bleed-  
ing hemorrhoids. It was attended with nausea and sickness at stomach;  
pain, in the head, fever, and frequent small stools, of a yellow-green  
ish greenish matter, mixed with a great deal of blood. Reluctant  
from using any active cathartics, I prescribed a small dose of Calomel  
and Camomile. The sickness was relieved and large quantities of  
fatty stools evacuated. Some pains and gripings continued, and  
the flow of dark blood from the hemorrhoidal swellings, which  
burst by the violent tenesmus and irritations of the rectum. The  
Pistule myrrhae more given, with the most beneficial effects, and  
from that moment he recovered, and was at much greater ease of his  
old affection than he had been for a long time.

Case 4. I was called at Gorck, in the evening of the  
25<sup>th</sup> of July to visit Miss Charlotte, daughter of Mr. Samuel Lewis.

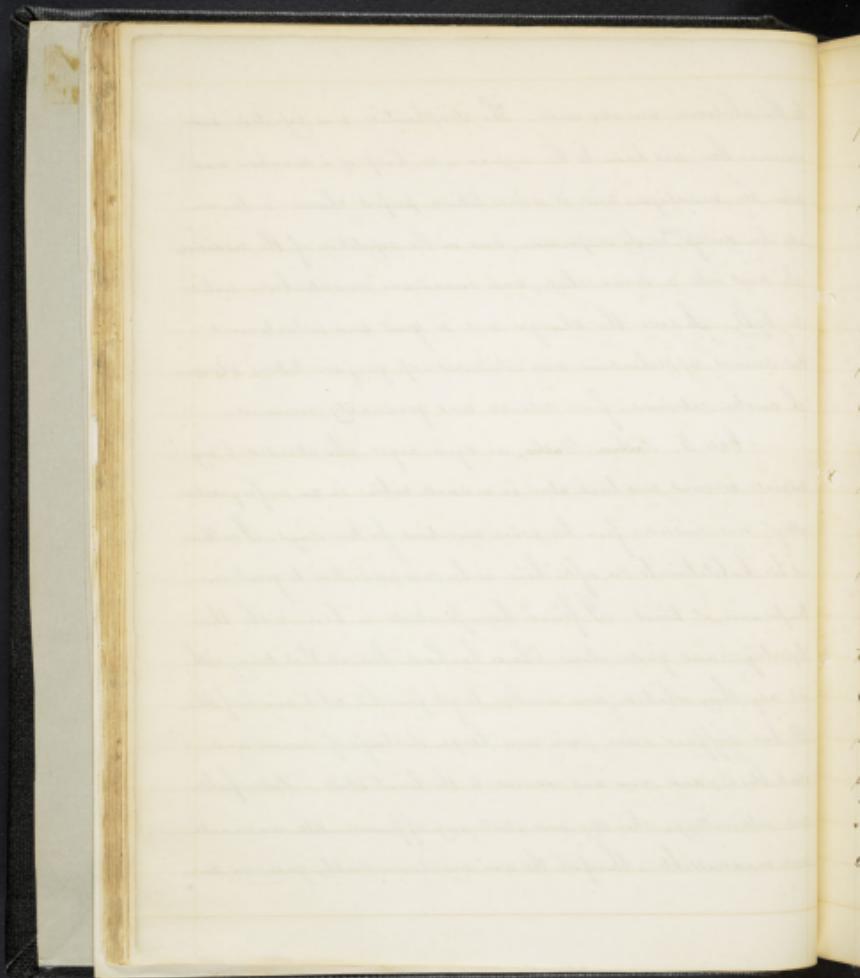


aged 15 years; of fair and ruddy complexion, and uniform healthy constitution. She was suddenly seized with spasmodic pains in the stomach, which soon extended to the intestines, and should stop in the most distressing tenors, and serous discharges mixed with blood. The pulse was frequent, face flushed, skin hot and dry, and much thirst. Specumanka and Calomel in grds. were combined and administered, to evacuate the stomach and produce a free discharge from the bowels. It had the desired effect, but the disease went on increasing in violence, and I was again called at 9 o'clock in the morning. The febrile symptoms increased, unchanged - the evacuations very frequent and attended with increasing pain and tension of the abdomen. So frequent indeed were the discharges in this case that, without exaggeration, they may be said to have been uninterrupted, and which required the patient to be supported in a position to aid its accommodation, without subjecting her to the torture of being moved so frequently as was required. Ol. Ricini and R. thalac. were ordered, but were not retained in the stomach. The saline mixture, with laudanum to divert action from the intestinal surface to the skin - anodyne enemas and fomentations



to the abdomen were also worse. The diaphoretic was projected, and soon as this was given to the patient, a half of a dram was given in snuffage, and it acted like a perfect charm; in ten minutes her distress <sup>had</sup> nearly suspended, and on the repetition of the medicine she went into a sound sleep, and remained undisturbed until day light. I see the change was so great and instantaneous that serious apprehensions were relieved of gurgling taking place, she awoke recovered from disease and gradually recovered.

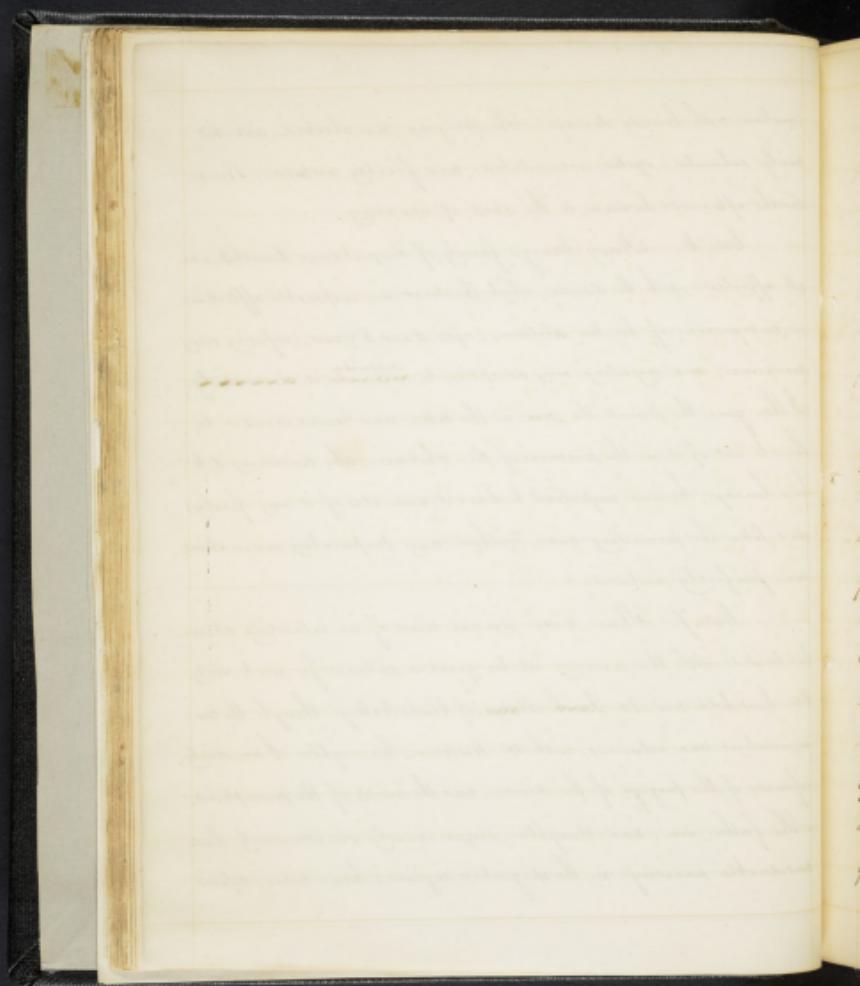
Case 3. Jobba Babba, an aged negro who attended to my medical concerns and lived alone in a small cabin in an infrequent alley, was missed from his usual avocations for two days. I called at his habitation to see of his home as he was addicted to great intemperance, at times. I found him prostrate in bed with the dysentery, and quite alone where he had been all that time, with out any thing whatever, and unable to get from his cot to visit his toilet. He had suffered severe pain and large discharge of tanies and dark blood; and now was reduced to the lowest state. Pulse feeble and intermitting, skin dry and stony, very offensive. All examinations were inadmissible, therefore the man was immediately given in con-



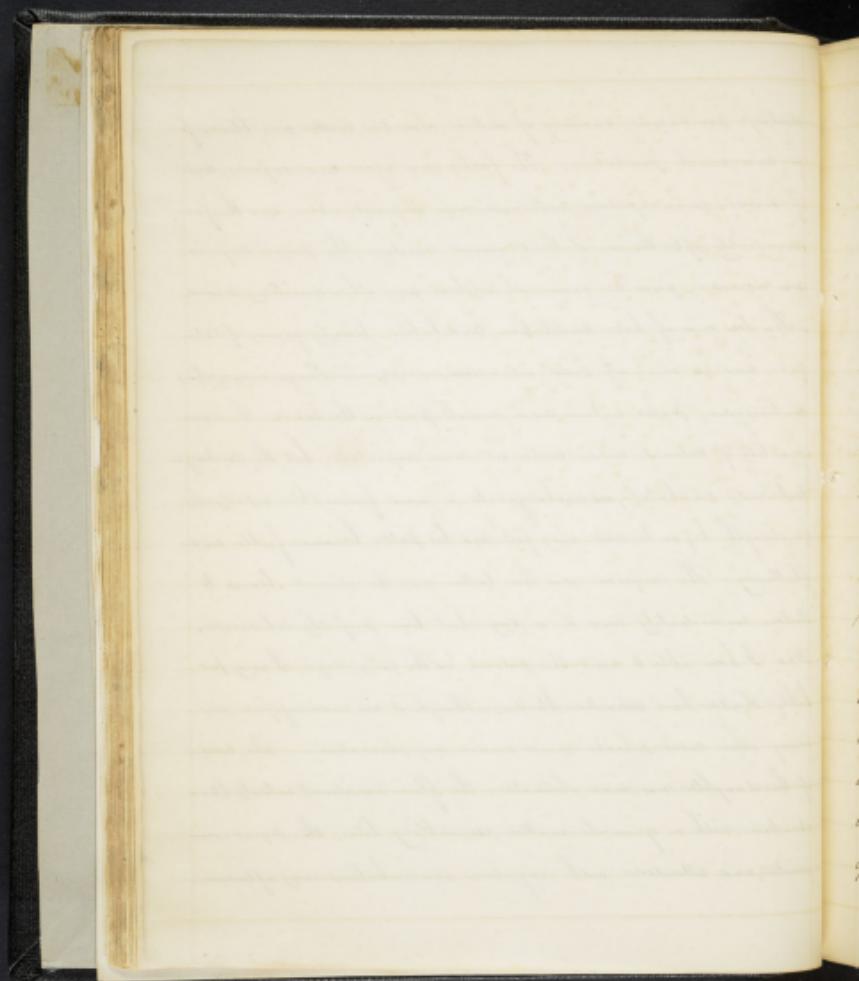
junction with brandy today. The purging was checked, and his nearly exhausted system reinvigorated, and finally restored. Some months afterwards he died in the stout of apoplexy.

Case 6. Henry Denys's family of Susquehanna township, were all affected with the disease, which threatened an insuperable affliction in consequence of his two children, ages 4 and 5 years, refusing every medicine, and rejecting every description to ~~assuage~~ <sup>assuage</sup> it ~~and~~ <sup>and</sup> satisfy. I then gave the parents the man in the water and recommended to them to eat of it in the presence of the children, who concurred in it to be a luxury, because impelled to have it, and ate of it very freely; and like the preceding case, without any preparatory evacuation, was perfectly restored.

Case 7. There were several cases of an interesting character treated with the remedy at too great a distance for me to visit. Our household was Mr. Sarah Hedges, of Clark Valley through the communications and interviews with Mr. Worlmer his neighbor I was daily informed of the progress of the disease, and the results of the prescriptions. The father, son, and daughter, nearly simultaneously, had considerable painings in the epigastric region; head aches; epiphile



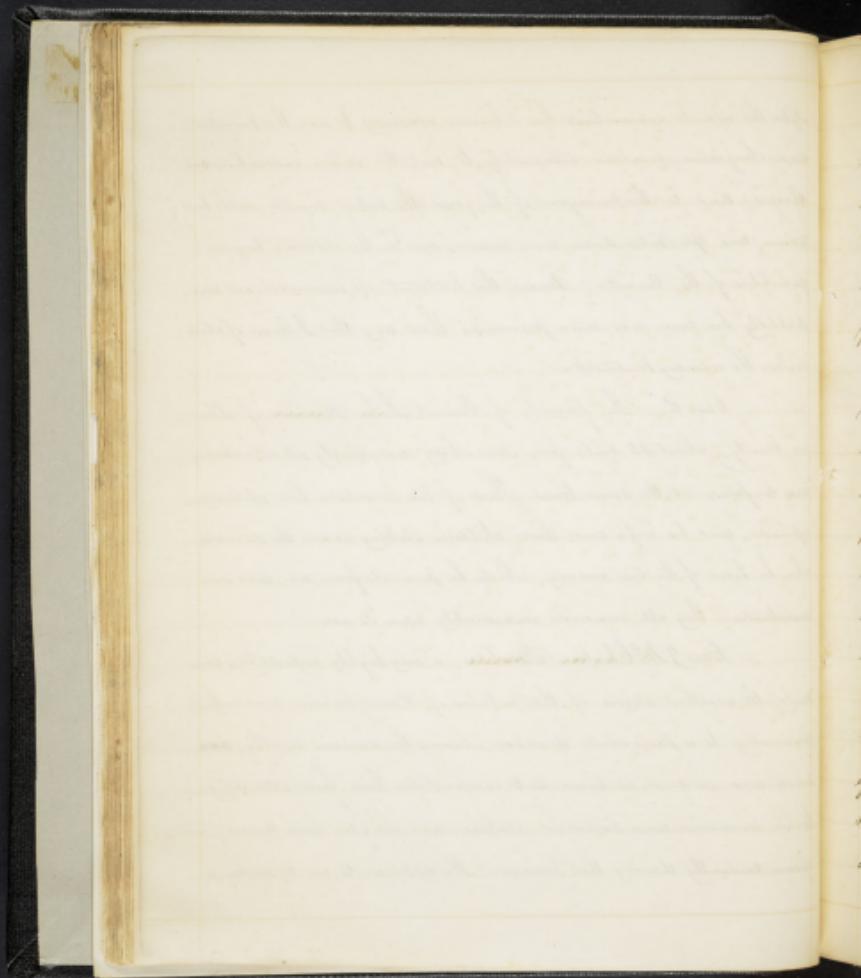
discharge per anum, consisting of clotted black matter and blood; for, and much protracted. The father was aged and infirm, and of course some delay was now imputable; and therefore immediately after the use of the oleigum, nitre, the public physician was advised, and he recovered without any other auxiliary means. The son was of bold constitution and habits, twenty grains of Calomel, and an ounce of Calo oil, recommended. Large sweating continued, pulse active and much pain in the head; the same quantity of Calomel and Calo oil, were repeated, but the discharge continued unabated, and unchanged to a more favorable aspect, while his strength began to sink very fast and his pulse became feeble and fluttering. The physician was then taken and the disease despatched immediately and in a very short time perfectly subduced. Had I been able to visit this patient in the early stage I very probably should have detected blood, although it was unsuccessful in many other cases which came under my observation. The case of the daughter was more obstinate - the flux was almost entirely blood streaked with a greenish matter resembling bile; the pyrexia greater, and attended with regular evacuations every afternoon.



After the usual evacuations here it became necessary to use the emetic and purgative mixture alternately, to meet the various indications and changes: and in the paroxysms of the fever the salvia mixture with belladonna and op. Nativ. dulc. were used, and in the intervals large quantities of the Conserve. Under this treatment she recovered, and undoubtedly her case was more precarious than any that I know of which suited the ordinary treatment.

Case 8. The family of General John Harris of Lancaster County, about 22 miles from Hanover were, nearly all attacked and confined at the same time. Three of his household had already expired, and his wife and three children sickening under the disease, when he heard of the new remedy, which he procured from me, and administered - they all recovered immediately upon its use.

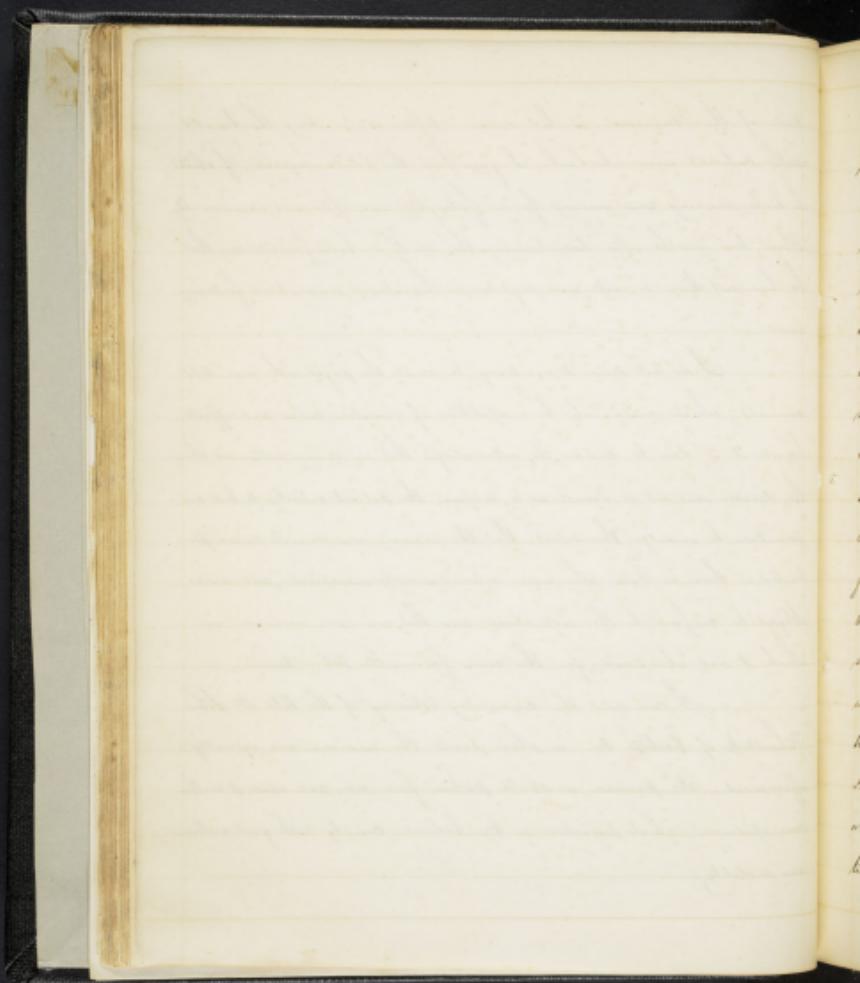
Case 9. Mr. Christian Knobler, a very highly respectable, and one of the wealthiest citizens of the interior of Pennsylvania was subject annually to a periodical diarrhoea, during the summer months, and which was so great at times as to incapacitate him from attending to his numerous and important duties; and obliged him to avoid opium continually during that period. An application to me to make a



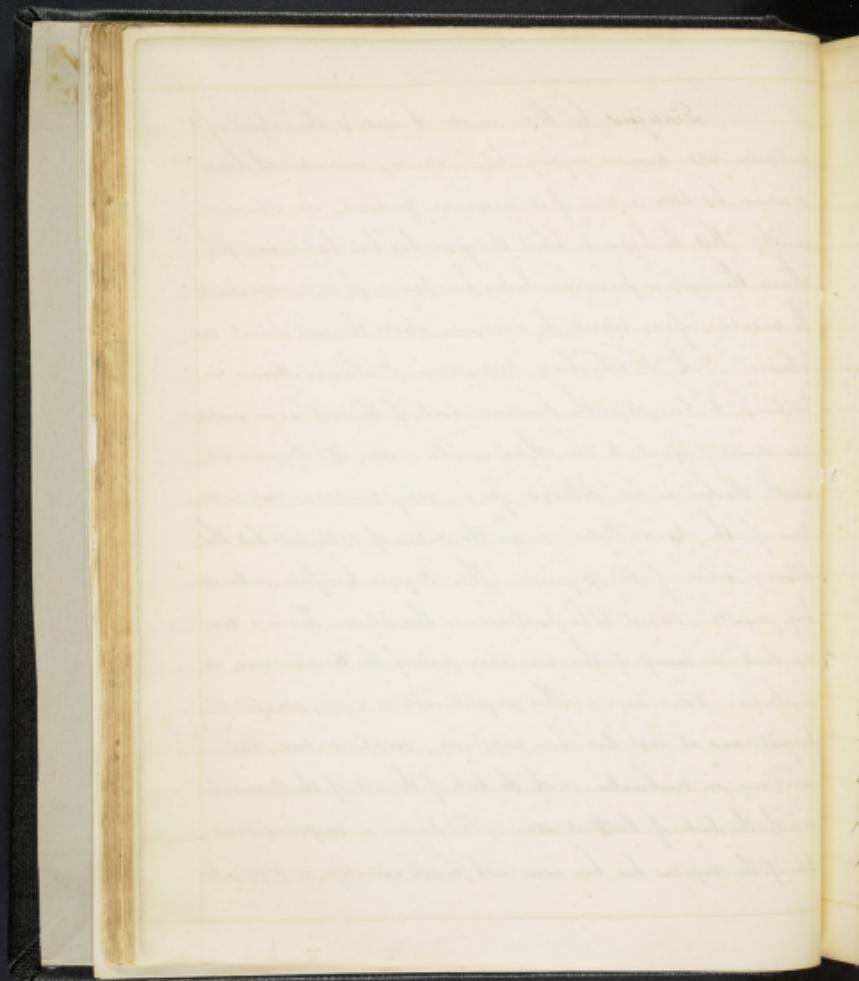
test of the physician in his case - After examining the bound  
with cabinet and about I give him the following of what  
he took morning and evening for a fortnight; and afterwards occasionally.  
About two months after discontinuing the use of it he informed me that  
he had not been so well and popular in his storms uneventful for many  
years.

I do not deem it necessary to write the pages with more testi-  
monials, which would only be a repetition of similar cases and effects,  
however it is due to consider the action of drugs that in many instances when  
the disease was not so severe as to confine the patient entirely to bed and  
permitted to engage themselves, that the recovery was much more pro-  
tracted, than in those who were more severely unwell, and were  
obliged to conform to the restrictions; and that one case occurred in  
which it was abandoned for the more favorable solution.

I can add the convincing testimony of the late Dr. John  
Thomastock, of Carlisle Pa. in whose hands the medicine was equally  
efficacious. He presented a small portion from me, and used it in the  
smallpox epidemic, which prevailed in Cambria County with great success  
and popularity.



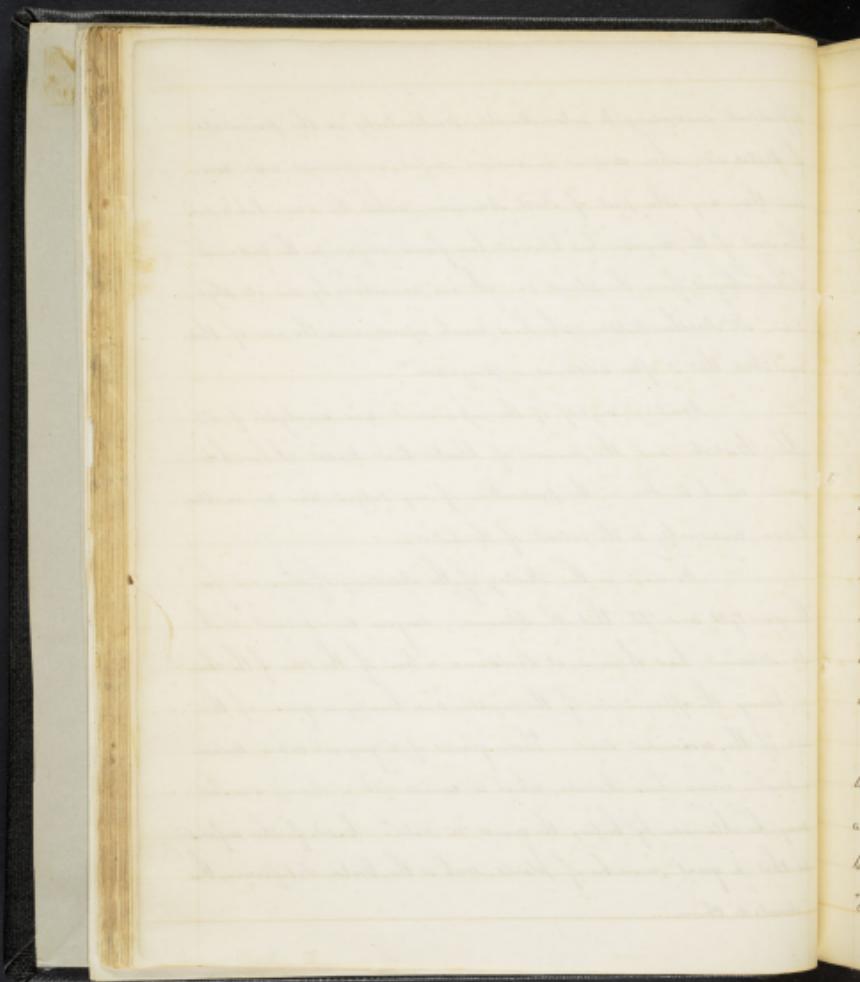
Qualified by these results I made is the subject of particular and anxious inquiry, but in all my researches I have discerned but little notice of its medicinal qualities. Mr. Alexander remarks "that the bignay in which the grain has been boiled and from whence the wine is procured, having been pressed out and coagulated to the consistency of an extract, he discovered, chose the most delicate days, antiquity." In Dr. Thacher's Dispensatory Dr. James Mann is mentioned to have used the powdered bark of the root as an emetic and deems it equal to the Guanacanha. As Dr. Benjamin Smith Barton in his "Collection for an History toward a Natural History of the United States" under the section of Astringents has the following notice of the Mayview. "The Mayrica canifolia, or bandberry myrtle, deserves to be mentioned in this place. This is a common shrub in many of the mountainous parts of the United States, as in Pennsylvania, Delaware &c. It is a very powerful astringent, and as such has been employed, sometimes alone, and sometimes in combination with the bark of the root of the Persimmon; or with the bark of the Black alder. The simple or compound decoction of the Mayview has been used, with much advantage in dyspepsia.



affections succeeding to putrefaction, particularly in the peninsula of Louisiana, where it grows in various shapes, are perhaps more common than any other part of North America, within the same latitudes. The root of the *Myrsinæ* has likewise been found useful in the treatment of hemorrhages from the uterus &c. It was recommended by one of its physicians, Dr. Mathew Wilson, who had much experience in the use of this vegetable, that it often acted as a purgative.

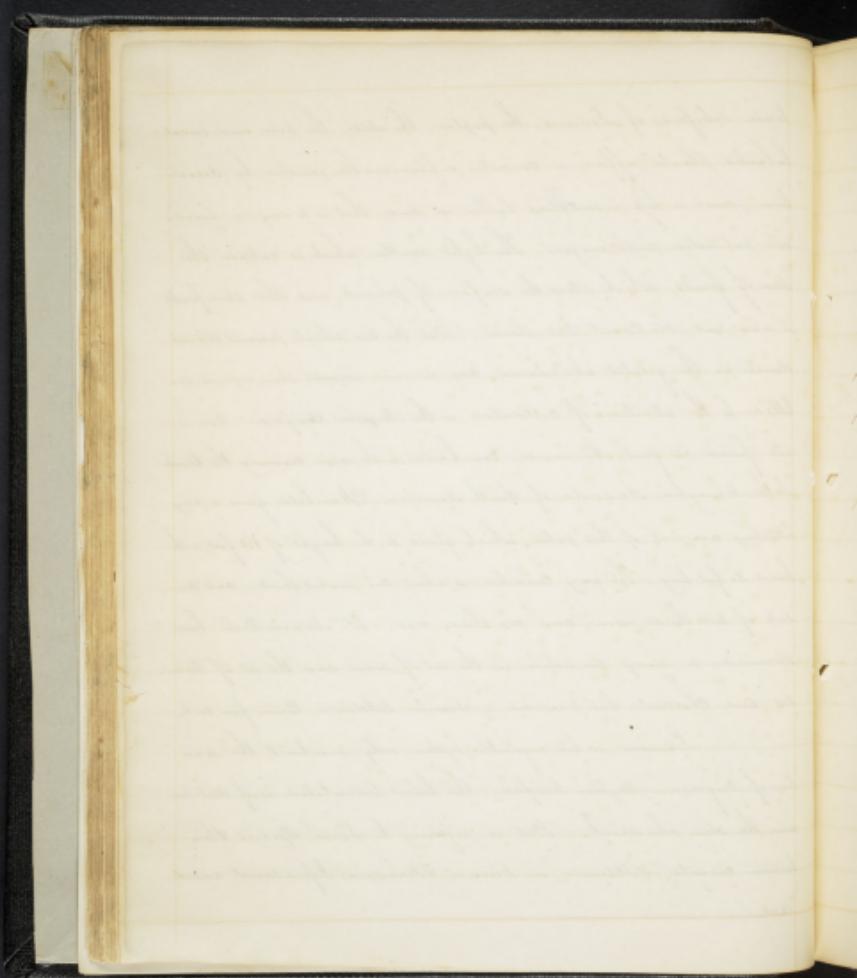
Availing myself of the experiments and analysis of Dr. John Bostock, and the memoir of Charles Louis Cadet I have been saved much trouble in the prosecution of my subject, and am enabled to add considerably to the interest of the article.

We read in the History of the Academy of Sciences for the years 1785 and 1786 that Mr. Alessandri, Singapour correspondent with Mr. Marion, had observed at Louisiana a tree of the size of the cedar 200 ft. high bearing the appearance of the myrtle, and bearing a grain of the size of the coriander seed. These grains of a greyish colour contain a small round hard kernel, which is covered with a shining rind that may be obtained by boiling the grain in water. Cadet further informs us that a great number of plants such as the *Coton* *Sebiformis*, the "Anan de Chine."



lomes' subfors of Lourine, the poplar, the alder, the pine and several  
labiate plants afford a concrete, inflammable, matter by decom-  
position, more or less resembling hollow a mass, that is to say, a foamed  
oil saturated with oxygen. The light matter which is called the  
dust of plants, which covers the surface of prairies, and other stone fruits  
is iron, at Mt. St. Helens. But the tree which presents this cat-  
stance in the greatest abundance, and in more respects than one, is par-  
ticular to the attention of cultivators, is the Magnei Quifae. This is  
also found in great abundance in combinaison with iron covering the bank  
of the Paranae Andicola of South America. Humboldt gives a very  
interesting account of this palm, which grows to the height of 150 feet, with  
bark 20 feet long. The woody portion is about two inches thick, and con-  
sists of two kinds iron, and one third iron. Dr. McCauley has  
discovered a very concretion in the oil of roses, and the oil of laurel  
etc. and Chevreuil has prepared a similar substance, Cerin, from cork.

Linnæus, in his vegetable system, only mentions the name  
of *Argemone Magnei binifera*, the leaves lanceolate as if divided  
and the stem absent. But in referring to Linnæus' Species Plan-  
tarum Curante Hollander, in *Diocia Tolandi* *Spis* *social* added.  
"Anat."



Ayer distinguishes two var.

1. *Myrica Cerifera angustifolia*, which grows in Louisiana. This tree is very delicate, and its grain smaller than the following. 2. *Myrica Cerifera Latifolia*, which grows in Pennsylvania, Carolina and Virginia, does not rise as high as the former. These two Myricas are distinct.

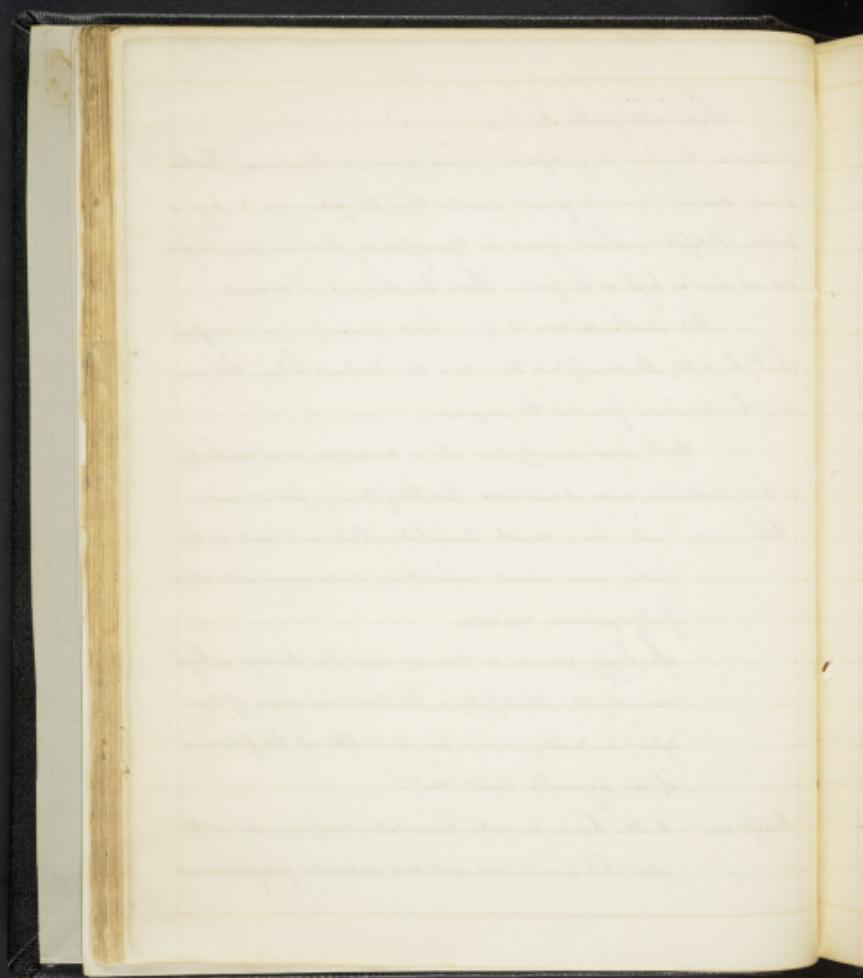
Dr. Dickhauer admits of a third species of myrica cerifera which he calls the dwarf wax tree: and Dr. Bealeant believes that wax may be procured from all the myricas.

Post, more recently, and who is considered correct authority, in Clap. Dickinson, and Abbot's work, has the following four species.

Cerifera 1. M. leaves cuneate-lanceolate, spine on acute at the apex, male awns imbricated, scales acuminate obtuse, fruit squamose capitata.

In boggy grounds in Canada, and about the base of high mountains: plentifully on the Broad mountains of Pennsylvania. It may or may not be a low shrub like all the following of an agreeable sweet scent.

Cerifera 2. M. leaves cuneate-lanceolate, rarely serrated at the apex which is acute, male awns loose, scales acute, fruit globosum small.

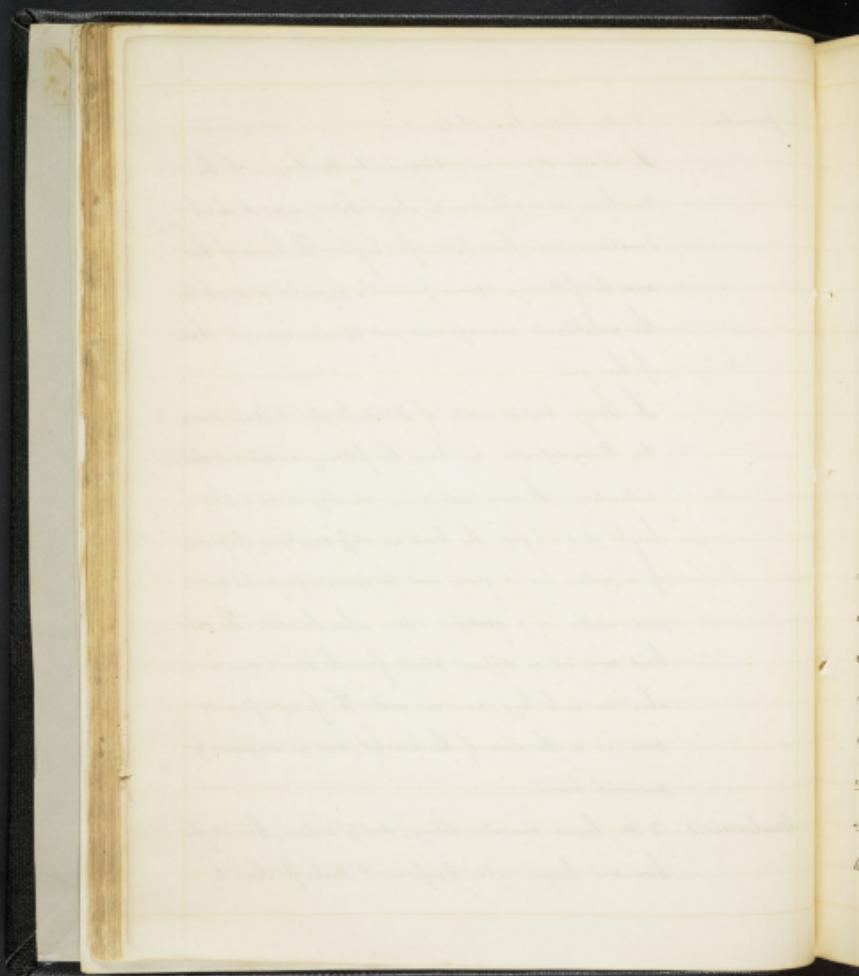


parvula 3. Mr. linear-lanceolate.

In shady dry woods; Virginia to Carolina; 3. In Carolina and Florida to May. June, v.v. A shrub sometimes more than twelve feet high. The berries of this and the following species produce a pyrolytic wax, which the inhabitants manufacture into candles equal to those of best wax.

In large wood-pasture of Dr. St. D. Mr. Williams' home in Encyclopedian we have the following additional characters. It rises with many shrubby stalks to the height of 3 or 8 feet; the leaves are stiff and open, sharpish, of a yellow lucid green upon the upper surface but paler underneath; of a grateful odour when bruised. The catkins come out on different plants from the berries and are about an inch long, and are erect. The female flowers come out on the sides of the branches, and are succeeded by roundish berries.

Caroliniana 3. Mr. leaves obovate, oblong, deeply toothed, berries globose and large. Mr. Gingef. 3. bush; fl. Amer. 2.

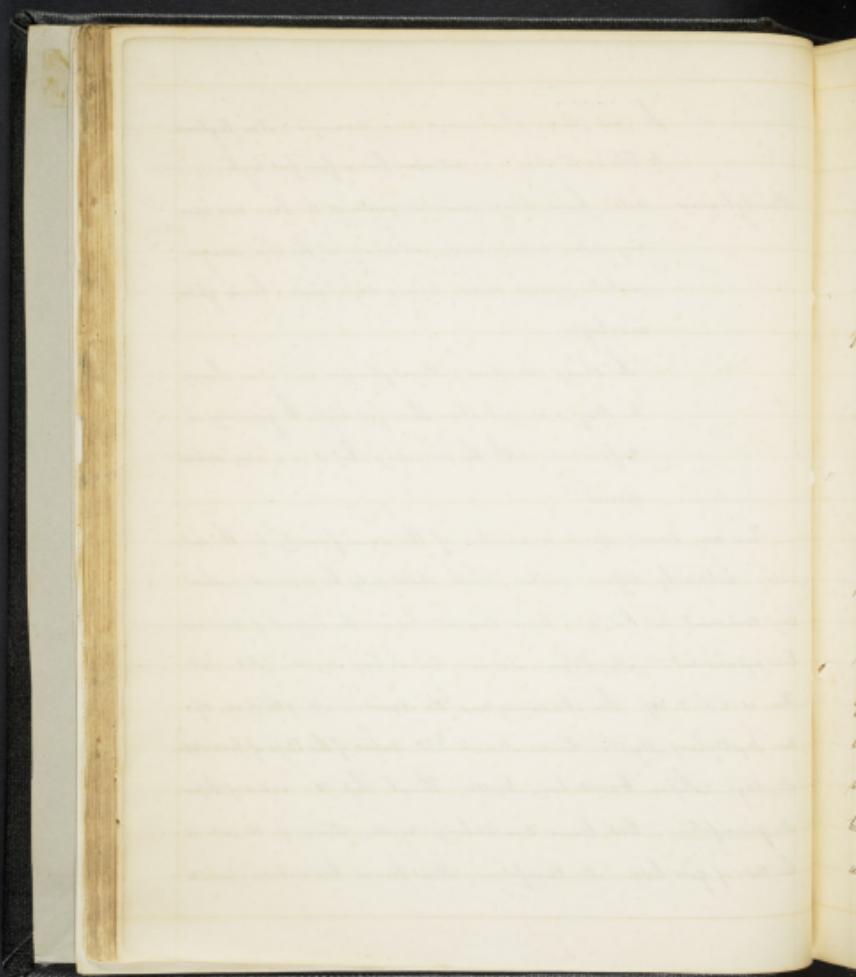


In wet places about rivers and swamps: New England.  
to Quebec to May &c. not above three or four feet high.

*Pennsylvanica*. state. Leaves oblong somewhat acute at the base and apex,  
very entire or very nearly so, sessile at the apex, margin  
entire, male awns loose, scales acute, berries globular  
and large.

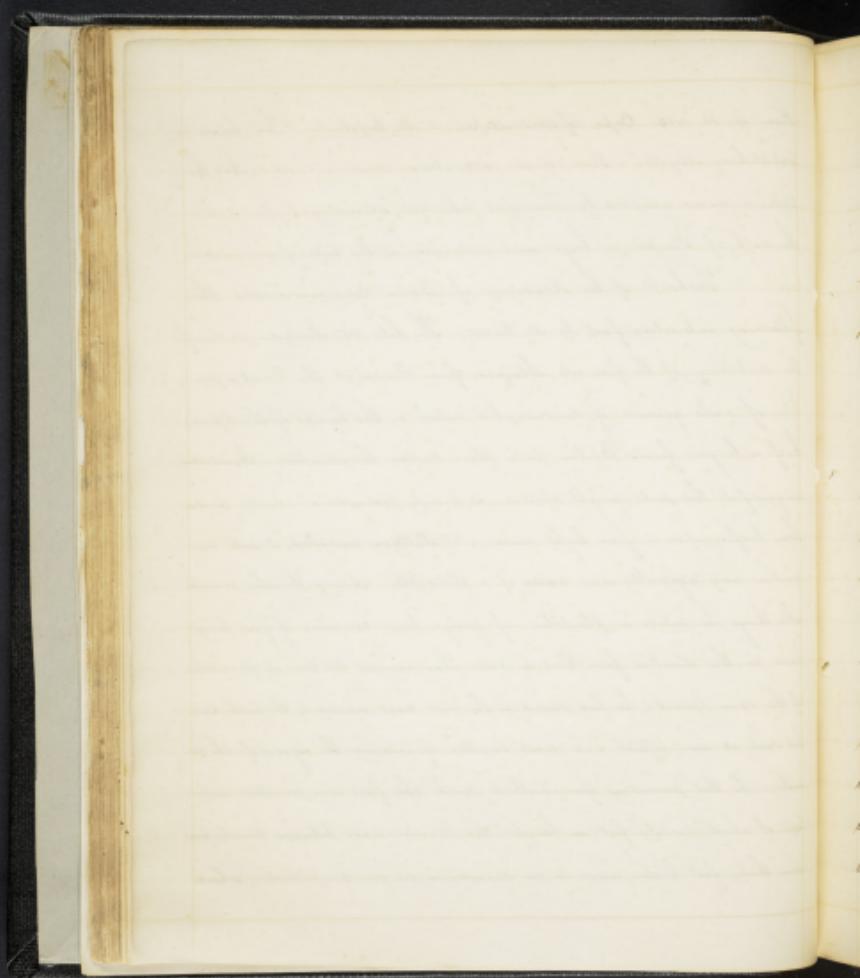
In shady situations: Pennsylvania and New Jersey.  
to May &c. not above three feet high. It generally is  
confounded with the preceding, but it is a very distinct  
species.

There are several species or varieties of the same family in the eastern  
waters, noticed by different authors, which shall only be named without  
any comment but that it is hoped they will become the subject of compara-  
tive refinement. M. Tayan. Stevian bandeberry Stev. Nutt. Nat.  
Her. ed. 1. v. 3. 297. In Madras and the Abyss. M. althaeoides. Afri-  
can Myrtleberry, Myrtle. Linn. Mant. 298. Native of the Cape of Good Hope.  
M. sagei. Japan bandeberry Stev. Thunb. Jap. 76. native of Japan.  
M. quercifolius. Oak leaved bandeberry Myrtle. Linn. Pl. Nutt. at  
the Cape of good hope. M. cerasifolius. Sweet leaved bandeberry Stev.



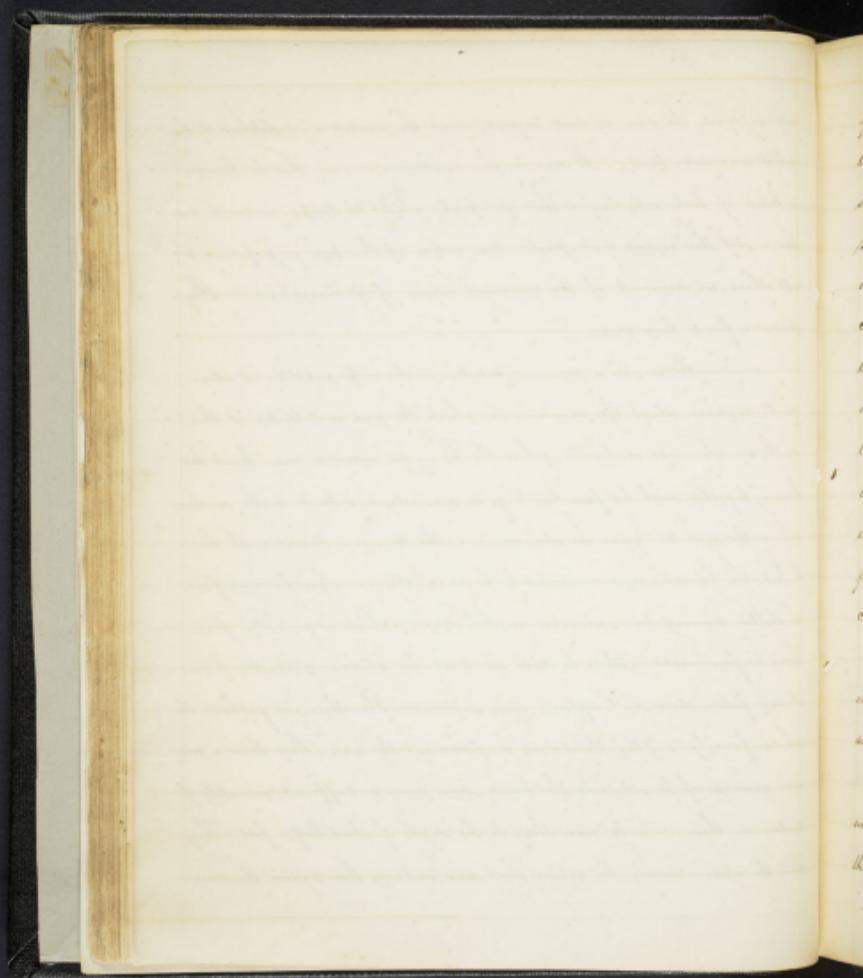
June 28 1852. Cape of Good Hope. — Mr. Balfour. The Environs  
Cape of Good Hope. June 28 1852. Near Cape. 20° 5' S. 18° 20' E. The  
Gale, a name adopted by Scammon, abounds according to him in  
the north of Europe, in bogs and especially at the bases of mountains.

President of the Academy of Berlin communicates the  
following interesting fact to M. Cadet. The late Mr. Pölzer, author of  
the dictionary of the fine arts, obtained from Friesenck the Count a par-  
tion of waste ground of considerable extent on the banks of the Spree,  
half a league from Berlin, in a place called the Leutkate. However  
unprofitable this soil might appear as it only presented a sandy and  
bare turf, upon a few light sand. Mr. Pölzer converted it into a  
garden very agreeable and worthy of a philosopher. Among the other remark-  
able things he made a plantation of foreign trees, composed of five long  
rows, in the direction from East to West. There were not two trees in succession  
of the same species: he has placed in the rows most exposed to the north, and  
but such as are tallest and most capable of resisting the rigours of the  
climate. So that proceeding from north to south the first row presented only  
trees of about twenty feet in height; the second trees between twenty-five  
and thirty feet high, and so in succession in an amphitheatre, where



all enjoyed the sun, at least in part, and the weakest were sheltered by them which were more hardy. It was in the southernmost row that he observed a kind of bush only two or three feet high which Mr. St. Ger. called the sun-bush. All the Indians took particular notice of this tree in preference to all others, on account of the delicate name of its leaves, which they preserved for a long time.

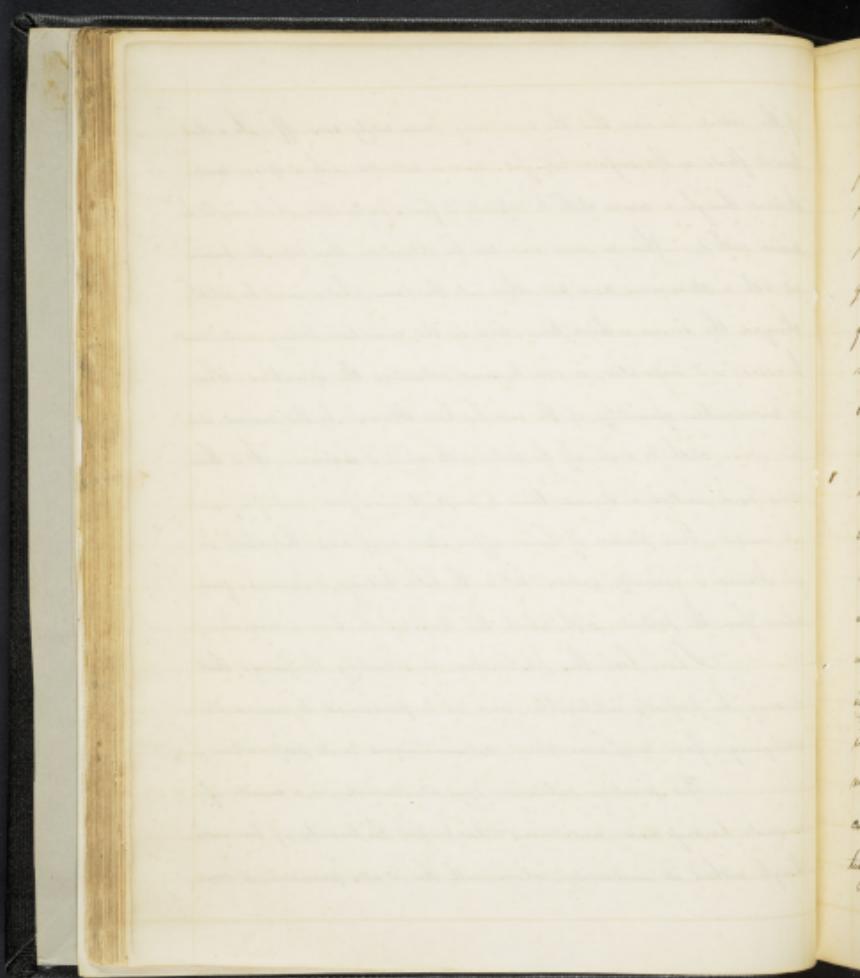
Forca, in a moment, relates in his work, subtitled *L'Ami de la Nature*, the manner in which the sun is collected at the south. Towards autumn, when the beans are ripe, a man leaves his house, together with his family, to go to some island or bank on the south where the sun-bean grows in abundance. He carries a vessel with him to hold the beans, and a hatchet to build a cottage where he may find a shelter during his residence in this place, which is generally from three to four weeks. While he cuts the trees his children gather the leaves. A very futile effort will afford some produce. When these are gathered the whole family employ themselves in preserving the sun. They throw a certain quantity of beans into the bottle, and pour a sufficient quantity of water on them so as to cover them to the depth of about half a foot. They boil the whole stirring the grains about and putting them against the sides



of the vessel, in such that the wax, may, more easily come off. In a short time it floats on the surface like fat, wax is collected, with a spoon and strained through a coarse cloth to separate it from impurities, which might be mingled with it. Then no more wax can be obtained, they take the berries out with a strainer, and put others into the same; but it must be constantly changed the second a third time, and in the mean time boiling water must be added as it evaporates, in order to avoid retarding the operation. When a considerable quantity of the wax has been obtained by this method, it is laid upon a cloth to drain off the water with which it is mixed. It is then dried and melted a second time to render it more pure, and it is formed into masses. Four pounds of berries afford about one of wax; that which is first obtained is generally yellow; but in the latter boilings it assumes a green colour from the pellitory with which the berries are covered.

I have seen this particular, in extracting the proofs that it may be perfectly intelligible, and not be presumed to receive its astringency from any adulterated circumstances in its preparation.

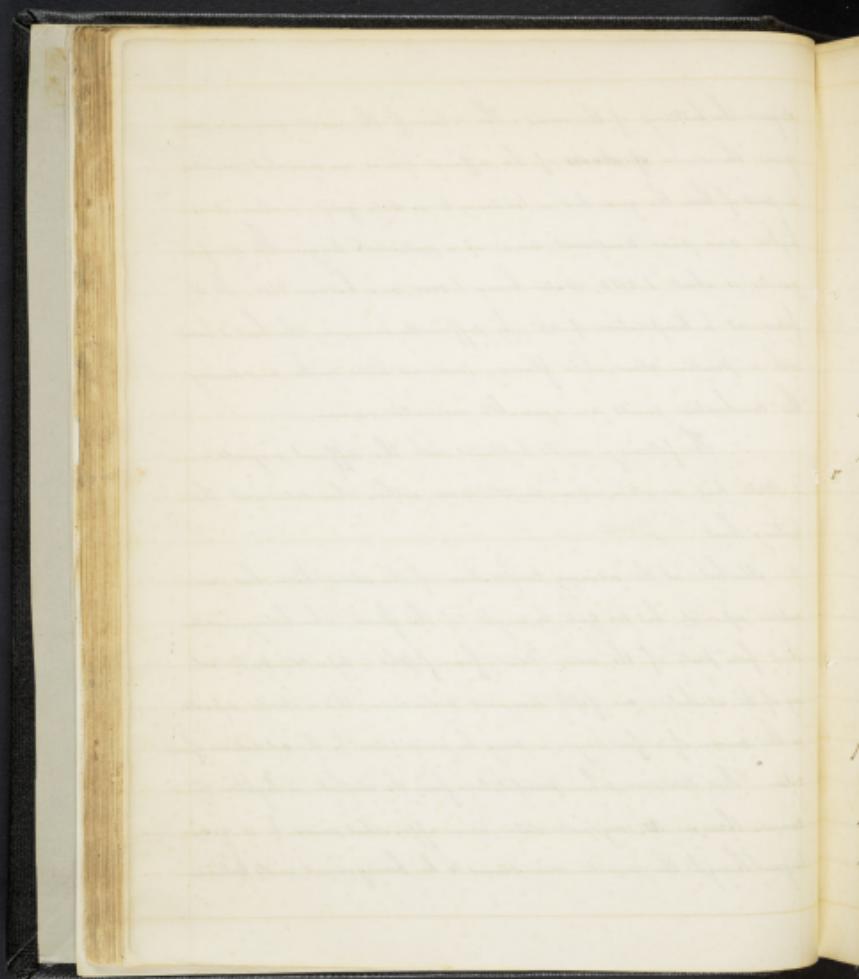
This precious substance, says Dr. Boston, is a compact of minute hardness and consistency; it has in part the tenacity of best rope; though without its weight; along with this, it also possesses, in some



degree the bitterness of the roots. The colour of the myrtle wax is a pale green: the shades of greenness of the different species are somewhat various; in most of them the green has a tendency to a dusky grey; in others it is lighter and more transparent, and of a yellowish tinge. Its specific gravity is about 1.0150, water being 1.0000, and benzene 9800. It is fusible at a temperature of 125°; by sufficiently increasing the heat, it burns with a peculiar clear, white flame, produces little smoke, and during the combustion emits an agreeable aromatic odour.

The following are its relations with the different reagents—

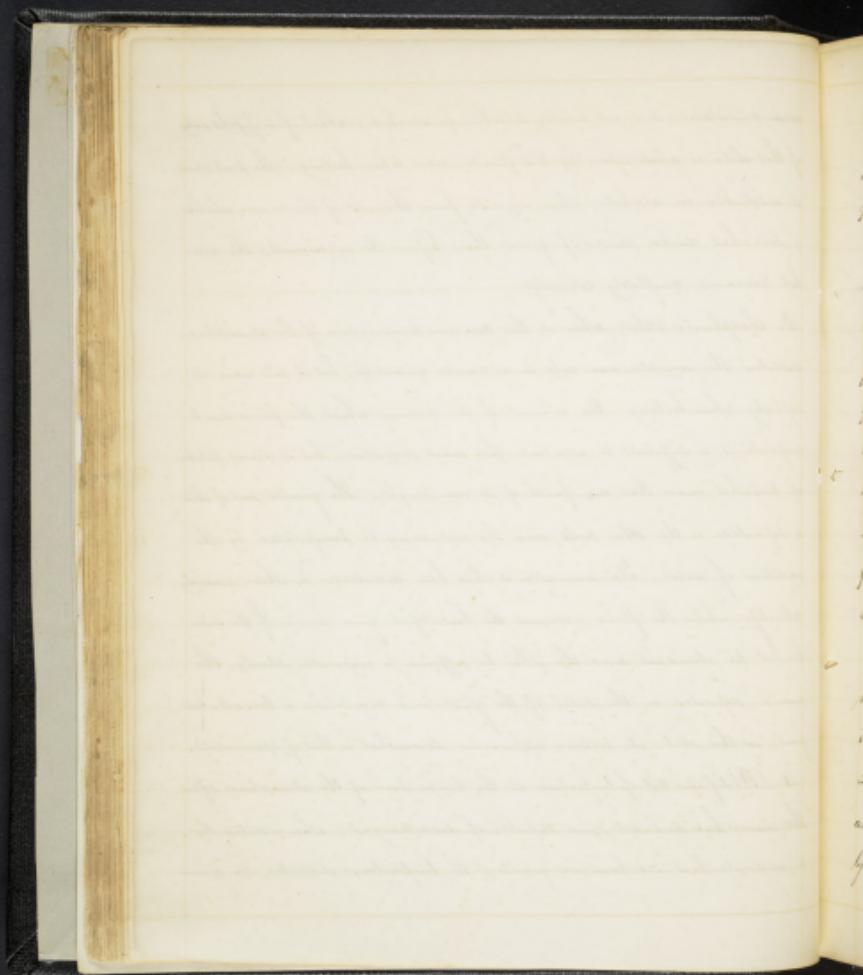
1. Water has no action upon myrtle wax, either when cold or at the boiling heat.
2. Alcohol, at the ordinary temperature of the atmosphere, has no action upon it; but ten parts, by weight, of this fluid, when boiling, dissolve about four parts of the wax. Nearly four-fifths is deposited by the cooling of the alcohol; one-fifth remains suspended; this is slowly deposited in the course of a few days, or may be precipitated by the addition of water. This substance, when precipitated from the alcohol, is lighter in colour than in its original state, and approaches more to a grey tinge. Though the myrtle wax seems to be homogeneous in its behavior



and consistence, it is not totally soluble in alcohol; about four fifths only of this whole is acted upon by the fluid, even when boiling. The part which is insoluble in alcohol, when separate from the rest of the mass, exhibits a somewhat darker shade of green than before the separation; the alcohol remains completely colorless.

3. Safflower Oil, when at the common temperature of the atmosphere, dissolves the myrtle wax only in a small quantity, but it acts upon it rapidly when boiling. On account of the tendency which the fluid has to evaporate it is difficult to ascertain the exact proportion, but it seems to take up somewhat more than one fourth of its own weight. The greatest part of this is separated as the other waxes, and the rest may be precipitated by the addition of water. The wax after it has been dissolved in ether, is nearly colorless, while the fluid assumes the beautiful green hue. If the wax be not too abundant and the ether be suffered to evaporate slowly, the wax is deposited on the sides of the glass in a crystalline uncolored form; in this state its texture appears somewhat to that of spermaceti.

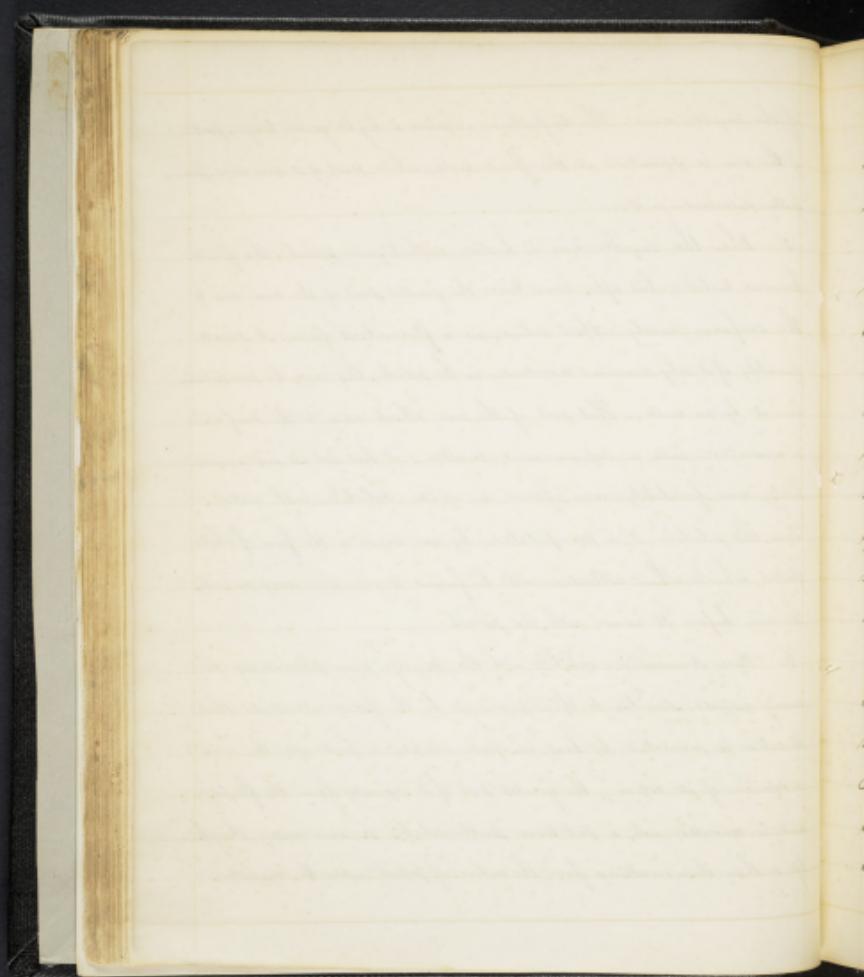
4. Perfumed Oil of Bergamot at the temperature of the atmosphere before the wax, but does not seem capable of dissolving it; when heated by a moderate heat one hundred grains of the bergamot oil dissolve ten grains



of the myrtle wax. The turpentine acquires a light green tinge, part of the wax is separated, as the fluid cools, while part of it remains perfectly dissolved in it.

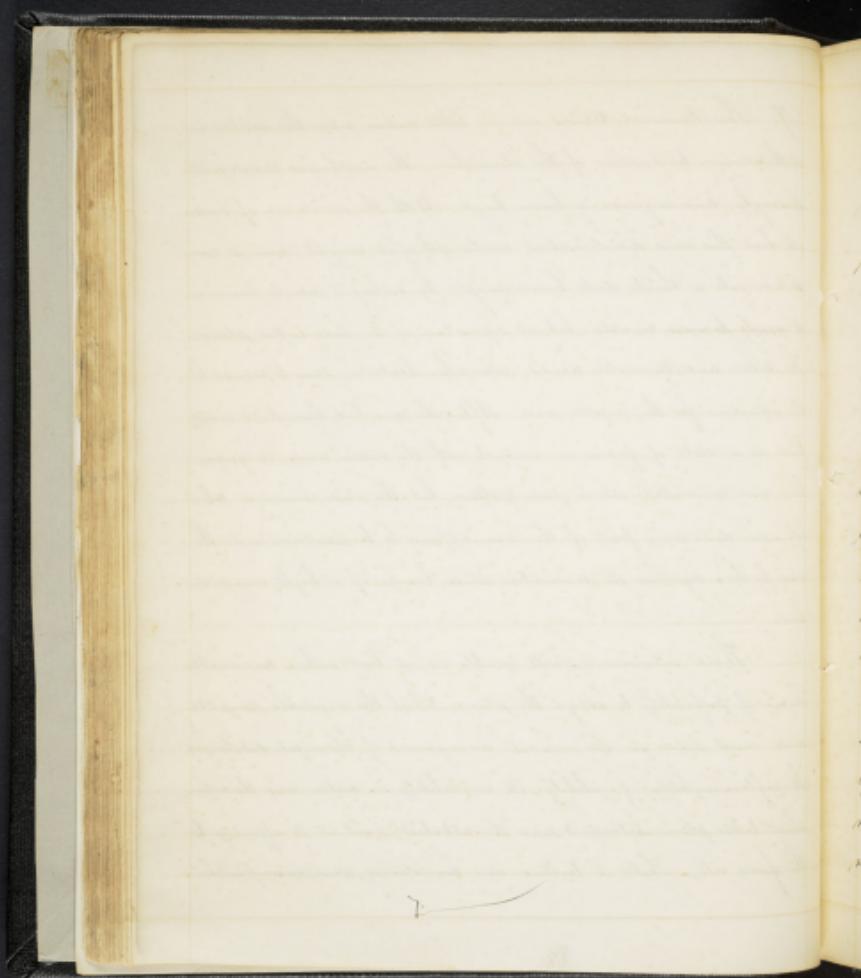
5. When the myrtle wax is boiled with liquid potash, the fluid becomes turbid, but after some time the greatest part of the wax rises to the surface, nearly without colour, in a flocculent form. A small quantity of it only remains dissolved in the potash; this may be precipitated from it by an acid. That part of the wax which rises to the surface is converted into a saponaceous matter; it has lost its inflammability and fusibility, and forms an opake solution with water. From this solution it is precipitated by an acid in the form of white flakes, which when collected will be found to resemble very nearly the wax before its union with the potash.

6. Pure Ammonia exhibits with the myrtle wax phenomena, in many respects, similar to those produced by the fixed alkalies. When its action is promoted by heat, an opake solution is produced, the wax is deprived of its colour; the greatest part of it separates from the fluid, and is converted into a substance partly soluble in warm water, though less so than that resulting from the action of potash upon the myrtle.



7. The Mineral Acids exercise little action upon this substance at the ordinary temperature of the atmosphere; the sulphuric dissolves it sparingly, and imparts a brown tinge. With the assistance of moderate heat this acid dissolves about one twelfth of its weight, and is converted into a thick, dark brown mass. By cooling it nearly becomes a granular brown mass, but no separation of the resin takes place. The Nitric and Muriatic acids, even when heated, seem to possess but little attraction for the myrtle wax. After the wax had been kept some time in a state of fusion in contact with the nitric acid, its green hue was converted into a pale yellow, but the acid remains clear, and no part of the wax appears to be dissolved with the exception that the muriatic acid becomes of a bright orange colour.

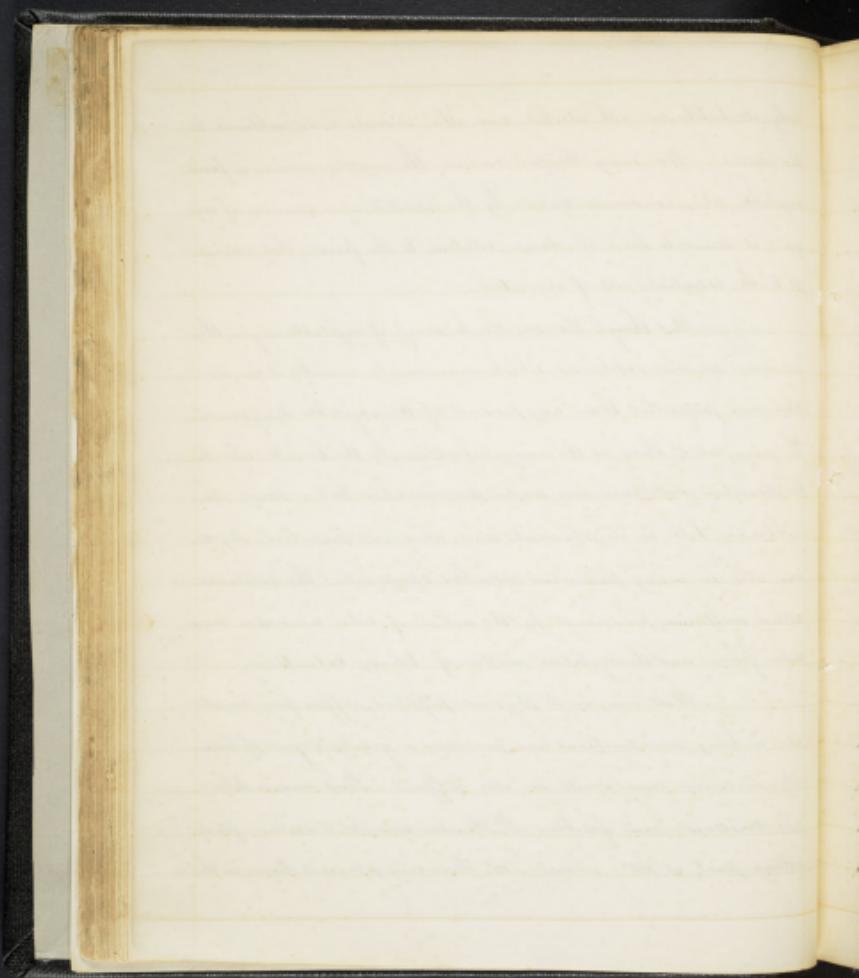
These experiments will enable us, at least with a considerable degree of probability to assign the place which the vegetable myrtle wax must hold in the natural arrangement of chemical substances. Its inflammability, fusibility, its insolubility in water, and the action which takes place between it and the alkalies point out its affinity to the fixed oils, while its tenacity and consistency, and insusceptibility



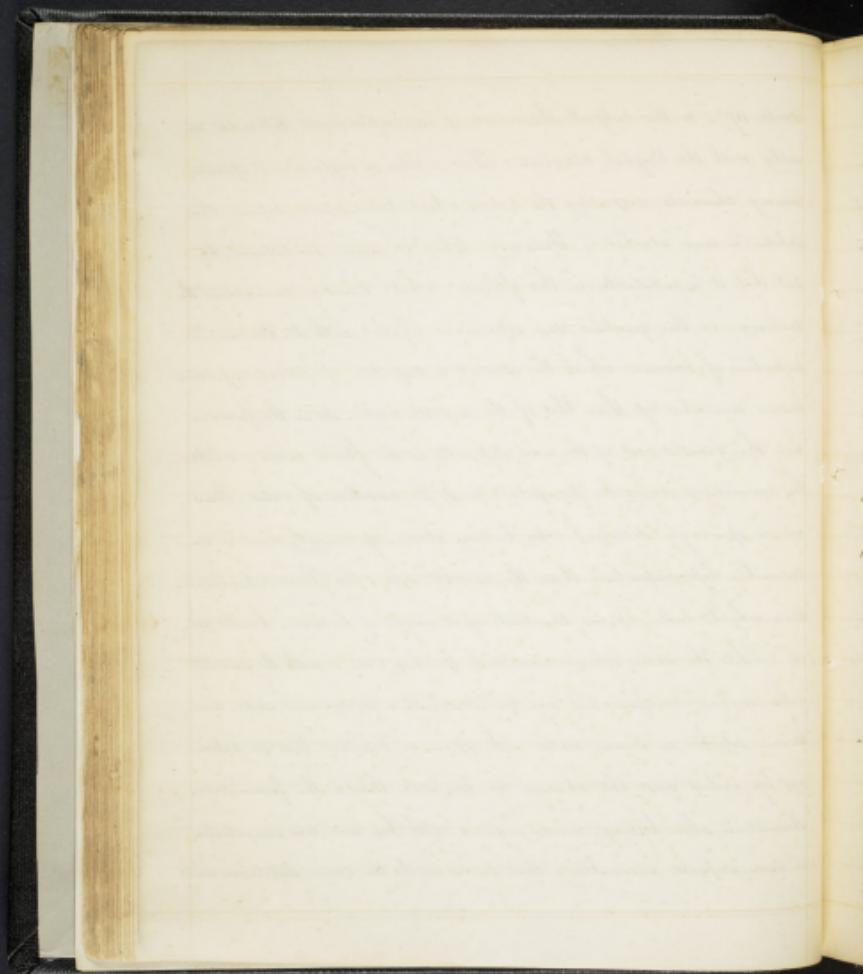
lately its habitats with alcohol and ether, indicate a resemblance to the resins. We may therefore consider the myrtle resin as a fixed vegetable oil, rendered viscous by the addition of a quantity of wax; it seems to hold the same relation to the former, that resins do to the essential oils of vegetables.

But though the myrtle be itself of vegetable origin there are some animal substances which more nearly resemble it in its chemical properties than any product of the vegetable kingdom. The principal of these is the wax elaborated by the bee to which the precious substance now under consideration has a strong resemblance, both in its physical and chemical properties. Myrtle wax also in many particulars resembles spermaceti; the substance called adipoceric produced by the action of nitric acid upon muscular fibre; and the crystalline matter of literary calcare.

But wax in its physical properties, differs from myrtle wax in being more tenacious and possessing a greater degree of tenacity; its colour and smell are also different. But wax is likewise considered, more fusible: Dr. Lister and Mr. Nicholson fix its melting point at  $143^{\circ}$ ; whereas Mr. Dennerley places it lower in the



scale  $17^{\circ}$ ; on this subject the results of my experiments coincide entirely with the English chemists. There is also a difference of opinion among chemists respecting the action which takes place below this substance and alcohol. Fourney, Chaptal and Nicholson, assert that it is insoluble in this fluid, while Pearson maintains the contrary: on this question my experience agrees with Dr. Pearson. The proportion of bromine which the alcohol is capable of dissolving seems however somewhat less than that of the myrtle wax. As in the former case the greater part of the wax separates as the fluid cools; while the remainder may be precipitated by the addition of water. But wax is sparingly dissolved by boiling ether less readily, and in considerably less proportion than the myrtle wax; the fluid, when heated, seems only to take up one twentieth of its weight of bromine. Castile pot ash exhibits the same phenomena with the bees wax as with the product of the myrtle berries; it was converted into a saponaceous state and became soluble in warm water. It appeared however that the action was less violent and the change less complete than in the former case. Ammonia, when boiling, readily forms with bees wax an emulsion, in some respects resembling that produced by the same substance with



the myrtle waxes. As the mixture cools, the greatest part of the wax rises to the surface in a flocculent form; it appears to have so far reacted to a union with the alkali as to have its texture and odour destroyed, and its fusibility and inflammability diminished; yet it is still, if at all, soluble in water. Upon the whole though they possess certain properties in common, and have a degree of similarity in their external appearance, yet they differ materially in their chemical nature.

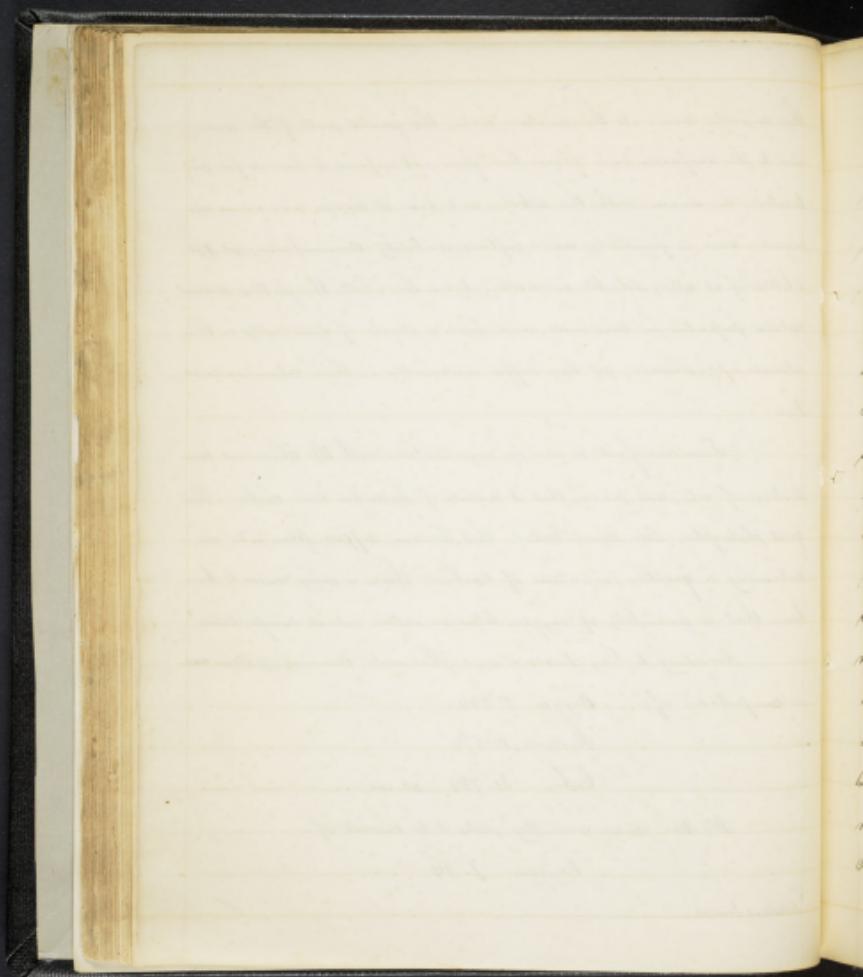
Lavoisier first made us acquainted with the chemical composition of oil, and proved that it consists of hydrogen and carbon. This great philosopher also demonstrated that the wax differs from oil in containing a greater proportion of carbon; there is every reason to believe that a quantity of oxygen likewise enters into its composition.<sup>1</sup>

According to Gay-Lussac and Thenard, Common yellow wax is composed of - Oxygen 5.544  
Hydrogen 12.872  
Carbon 81.784. 100.000.

Dr. Wm. Wm. recently states it to consist of -

Oxygen 7.94

<sup>1</sup> Nicholson's Journal.

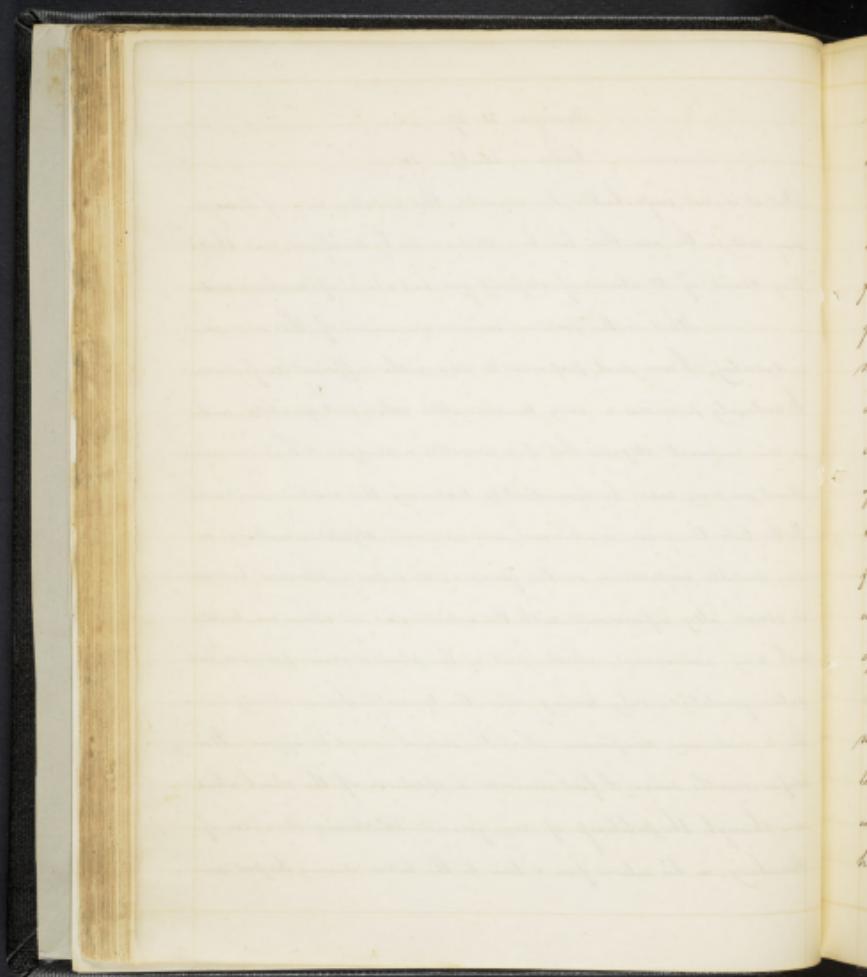


Hydrogen H. 37

Carbon St. G. 100.0

But it is not improbable, he remarks, that an atom more of hydrogen may exist in the sea than has been discovered by analysis, one that is may consist of 18 atoms of olefiant gas + 1 atom of carbonic oxide.

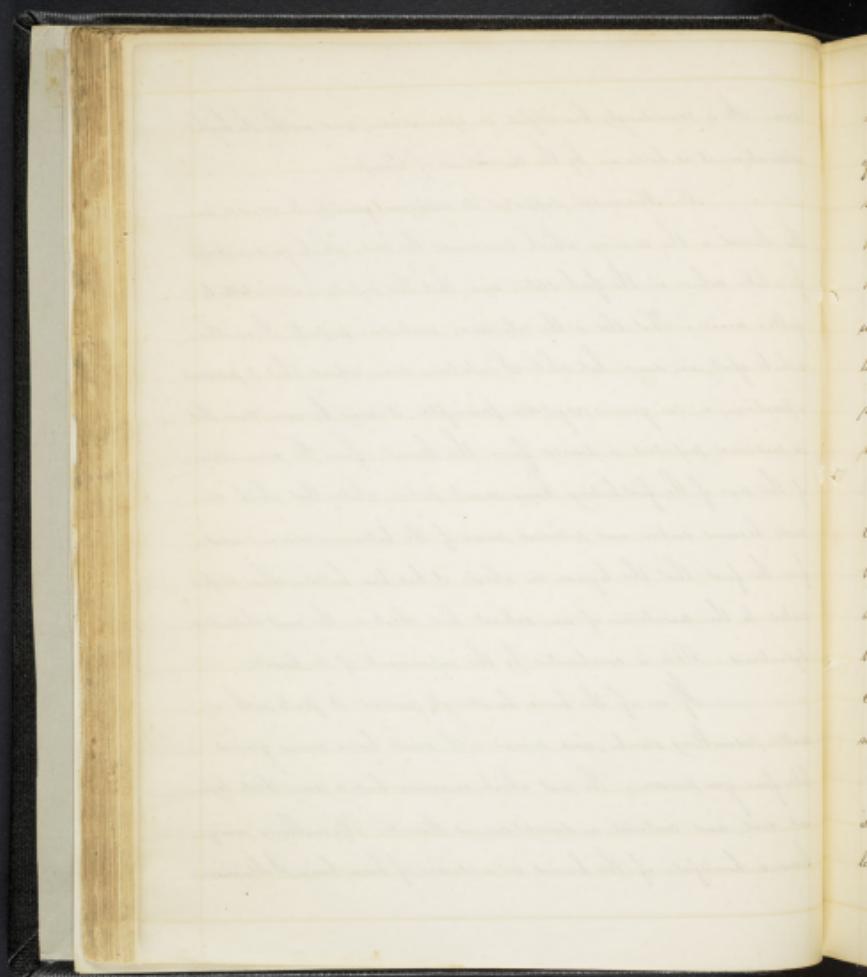
What is the precise modulus of the myrrin in dysentery I am not prepared to say with sufficient confidence. It certainly possesses a very considerable astringent quality, and to an eminent degree that of a narcotic or anaesthetic, which we cure almost in every case by immediately calming the morbid excitement. To the taste the grain is astringent and somewhat styptic, making a very sensible impression on the fauces; and has a pleasant balsamic odour. My experiments with the article do not allow me to state with any assurance, which part of the plant or grain possesses <sup>the</sup> astringent qualities, only having used the concrete. I am utterly unable to make any comparison with the subject seems to afford. It is but a few months since I first received a specimen of the shrub, which was through the goodness of my friend Mr. Henry Waehler of Hanoverburg, on his return from a tour to the lakes during the past summer.



sun. It is exceedingly beautiful in appearance, and worthy the high estimation it is held in by the Committee of Europe.

Mr. Hernandez supposed its astringent quality to reside in the Kernel or the covering which surrounds the seed, which gives a very fine like colour in the fresh state; and that this property is attributable to gallic acid. That this is the only and earliest property I neither wish to assert nor deny, but while I submit this, without that I possessed a position, a *sui generis* vegetable principle, it may be admitted that its medicinal property is derived from the Kernel. From the circumstance of the seed of the first boiling being much paler, while that which remains becomes darker and possesses none of the balsamic odour: and from the fact that the liquor in which it has been boiled, when exposed to the circumstance of an extract has checked the most obnoxious properties. This is corroborated by the experiments of Mr. Cadet.

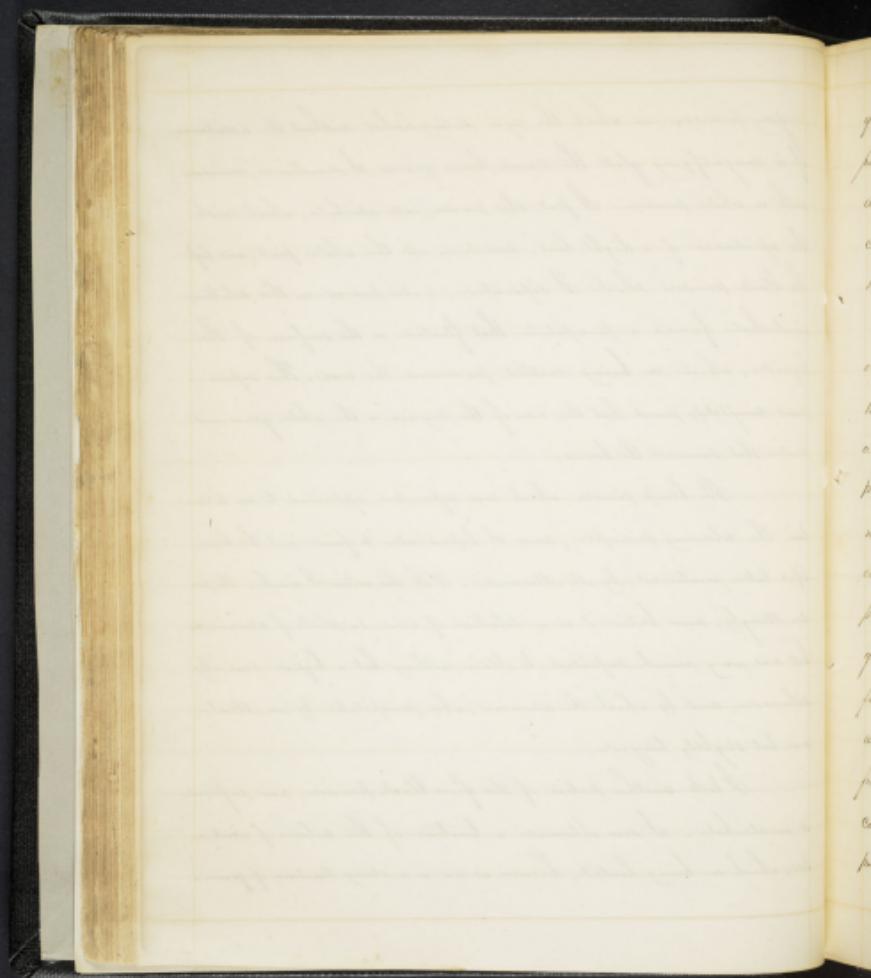
If one of the berries be strongly pressed it parts with a matter resembling starch, and mixed with small brown minute grains like fine gun powder. The part which remains has a very thick brown coat, and contains a dryish brown Kernel. By rubbing *poros* bears a handful of the berries in a cover of horse hair, I obtained



a grey powder, in which the eye distinguished without the assistance of a magnifying glass the small brown grains I mentioned, mixed with a white powder. I put this powder into alcohol, which with the assistance of a light heat, dissolved all the white part, and left the black powder which I separated; water poured on this solution in alcohol formed a precipitate that floated on the surface of the liquid, which on being melted produced the wood. This experiment completely proved that the man of the mignon is the white powdered powder that surrounds the berries.

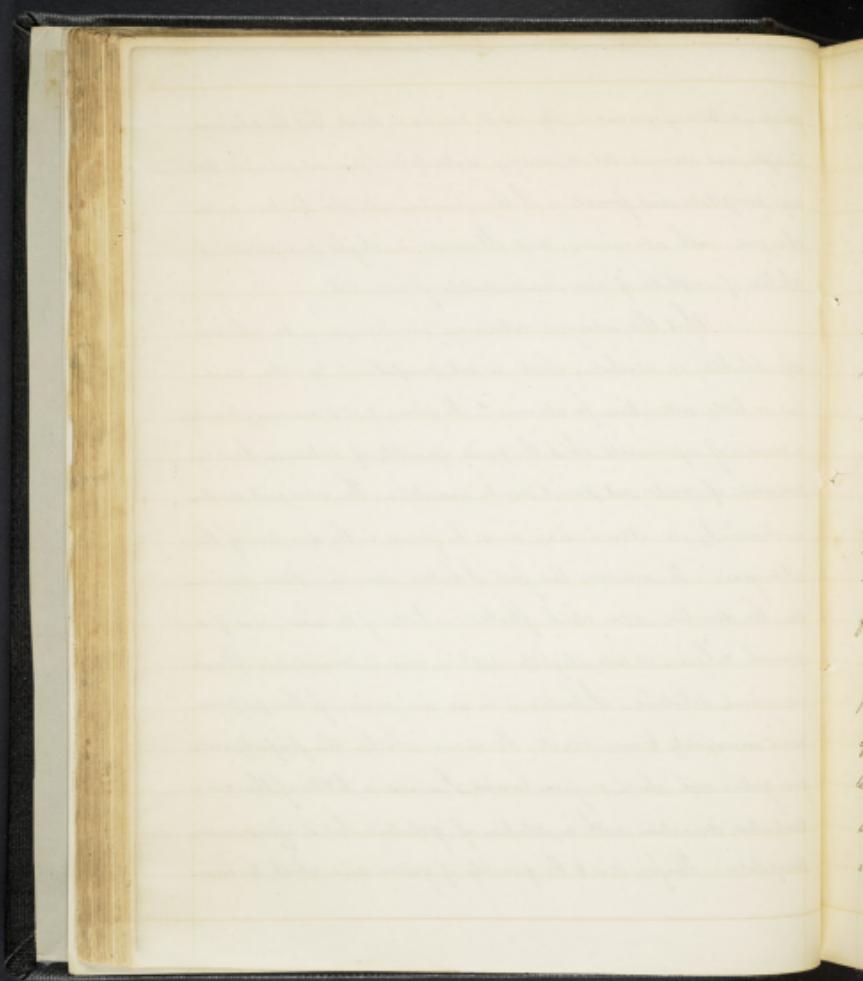
The black powder which was separated appeared to me to contain the coloring principle, and I hope also to find in it the beautiful color mentioned by Mr. Alexander. With this notion I washed the powder strongly, and boiled it in a solution of wine sulphate of alumina; but was very much surprised to obtain nothing but a liquor scarcely colored, and by which the alumina, when precipitated by an alkali, was but slightly tinged.

I took another portion of the fine black powder, and infused it in alcohol. I soon obtained a tincture of the color of wine, which on being heated, became as red as a strong tincture of prussic



guina, or *toro japonicus*. The result led me to think that the colouring principle was resinous, but in adding water to it I did not perceive that any precipitate was formed. I then passed into this colouring water charged with alumina, and observed a slight precipitate. A solution of sulphate of iron immediately formed with.

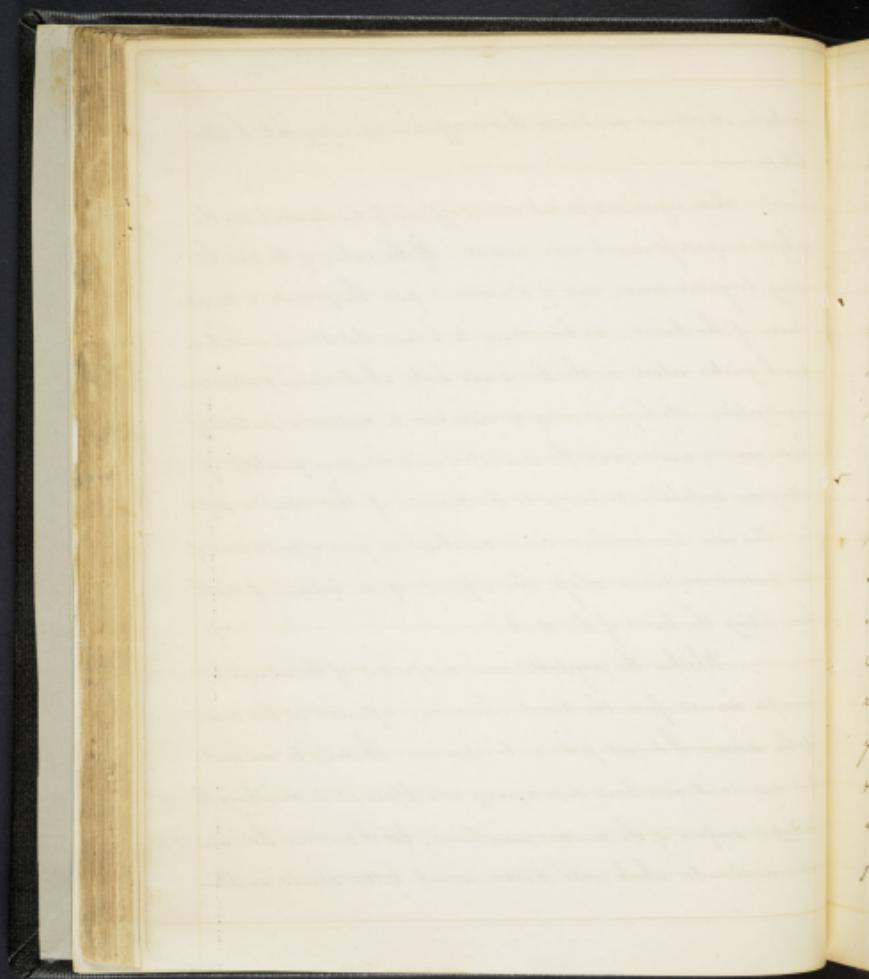
What this astringent colouring principle may be which is only soluble in alcohol, which is not precipitated by water, and has so little attraction for alumina? To ascertain this, it is necessary to make a course of experiments which the small quantity of substance I now in possession of would not permit me to undertake. The astringent matter mentioned by Mr. Abernethy must be found in the secretion of the outer grain. To ascertain this fact, I boiled some in a silver pan, for, the secretion, upon which floated a little of the wax, was of a greenish colour, it took slightly sanguine, and it precipitated black ferruginous solutions. I heated it in an iron vessel for that purpose, and it immediately became black. To discern whether this property arose from gallin' acid alone, or from tannin, I mixed a little of the concentrated secretion with a solution of gelatine, but it afforded no precipitate. Therefore it is to be presumed of gallin' acid which the berries



contain, Mr. Badst. considers that its effects in dysentery are to be attributed.

These experiments do not seem sufficiently conclusive, and the subject is open for much more research. If the virtues of the root be owing to gallic acid, and if it acts on the pellitory or the substance of the bowel, we have reason to believe that it may exist to a much greater extent in the leaves and bark, which deserve particular investigation. Perhaps it may be discovered to contain a portion of hydrocyanic acid, and the narcotic and anodyne quality of allaying irritation be owing to the presence of that sedative property. This idea has received some corroboration from a gentleman of the present medical class who informed of an instance of death from eating the leaves of the plant.

Whether the vegetable root independent of the active principle derived from the bowel, has any influence in the cure of the disease I do not pretend to determine. It may be an excellent demulcent and have some agency as a balsm at in shielding the irritated surface of the mucous membrane; but I conceive there are other condiments which will answer much better should we obtain

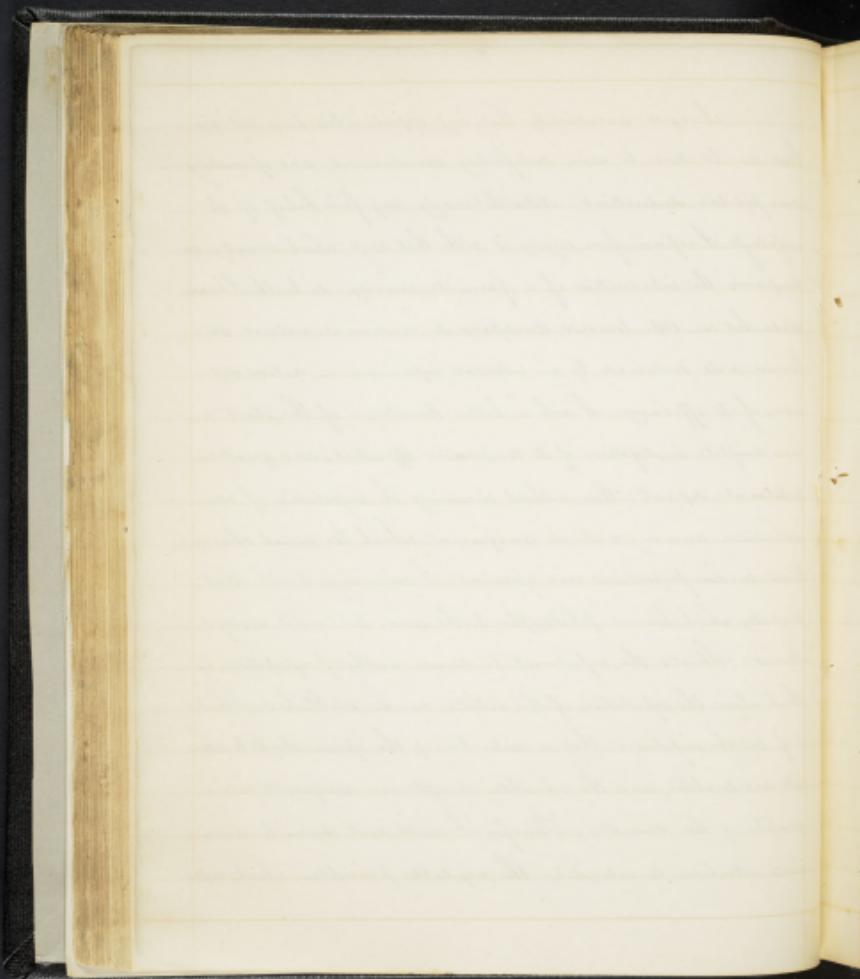


the astringent principle separate from it, unless it be fairly estab-  
lished that the wine has an astringent operation, as is sometimes  
asserted and ascribed to it; and particularly in the preparation  
of the *Oxydum Sulphonum Medicinale*. Cum Cetera already noticed.

The Concile is efficient only, I believe, in proportionate  
to the quantity of the green astringent principle that it contains. It may  
be necessary more explicitly to remark that the species *Pomysylvan-*  
*ica* was used in my experiments, as there may a discrepancy  
in the different species or varieties; and I take this opportunity  
of acknowledging the politeness of Dr. W. P. C. Barton in acceding  
so soon precisely to determine this point. After having used all  
the Concile that I received from Erie, I procured some from  
New Jersey, which did not act with as much promptness and success.  
It will be an important object, in future experiments, to determine the  
relative greatness and make a strict analysis of the different de-  
grees of astringent properties each may contain. The Jersey wine is  
yellow, more granulated and unctuous; and possesses much less  
astringency: and probably is bluered from the Siles, which chiefly  
flourishes in that state.



I regret exceedingly that my opportunities have not enabled me to come to more satisfactory conclusions, and of making more positive assertions. Notwithstanding my firm belief of its usefulness, I refrain from urging it with that spirit which usually accompanies the introduction of a favorite remedy. In truth I have made but one step towards developing its medicinal virtues, and however well sustained, by an extensive experience in active disease, of its efficacy, I wish a better knowledge of the plant, a more complete investigation of its comparative affinities, and greater collateral support; then without encumbering the publication of ideas, enthusiasm and dogmatical assertions, which too much characterize modern prophecies and opinions. I would urge it with that modesty which becomes philosophical truths, and true merit always observes. Should the experiment be deemed worthy of repetition, by which alone the reputation of the article can be established. I think it of much importance that a distinction of the species should be taken into consideration, and the variable strength and consequently active quality of the concrete. Therefore I would most strenuously recommend attention to extending the vegetative principle, which will

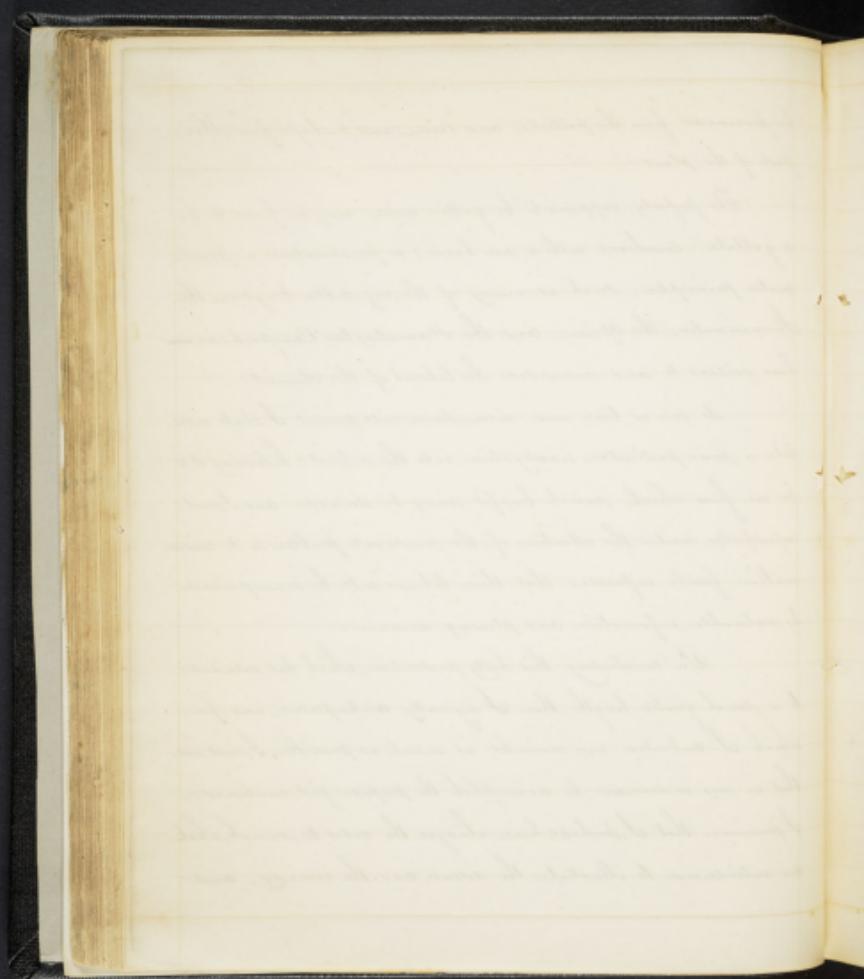


be procured from the foliage and root; and perhaps from other part of the plant.

The property supposed to be gallin' acid, may be found to be a gallate, combined with a new basis; or perhaps even a pronounced principle, such as many of the vegetable kingdom the Specumatum, the Opium, and the Hematoxylin Campeachianum have yielded to and rewarded the labours of the Chemist.

As soon as time and circumstances will permit I shall institute a more particular investigation into the subject: believing it to be one from which much benefit may be derived: and I most respectfully invite the attention of the medical public to its consideration, firmly impressing that their labours will be recompensed by valuable information and pleasing discoveries.

In concluding this hasty production, which has extended to a much greater length than I originally contemplated, and for which I apologize, my remarks as much as possible, I must add that in my endeavour to accomplish the purpose just mentioned, I presume that I, perhaps, have always the reader to, much, which are introduced to illustrate the disease and the remedy, and



much is left for the reader to infer. Thus, when I intimated a long  
sinking, a hysterical condition, and requiring stimulants, I can  
impart the idea of all the symptoms, phenomena &c. &c. in  
manifestation of that state: which to notice & repeat in each  
case would have consumed the time I sedulously abstained to avert.

